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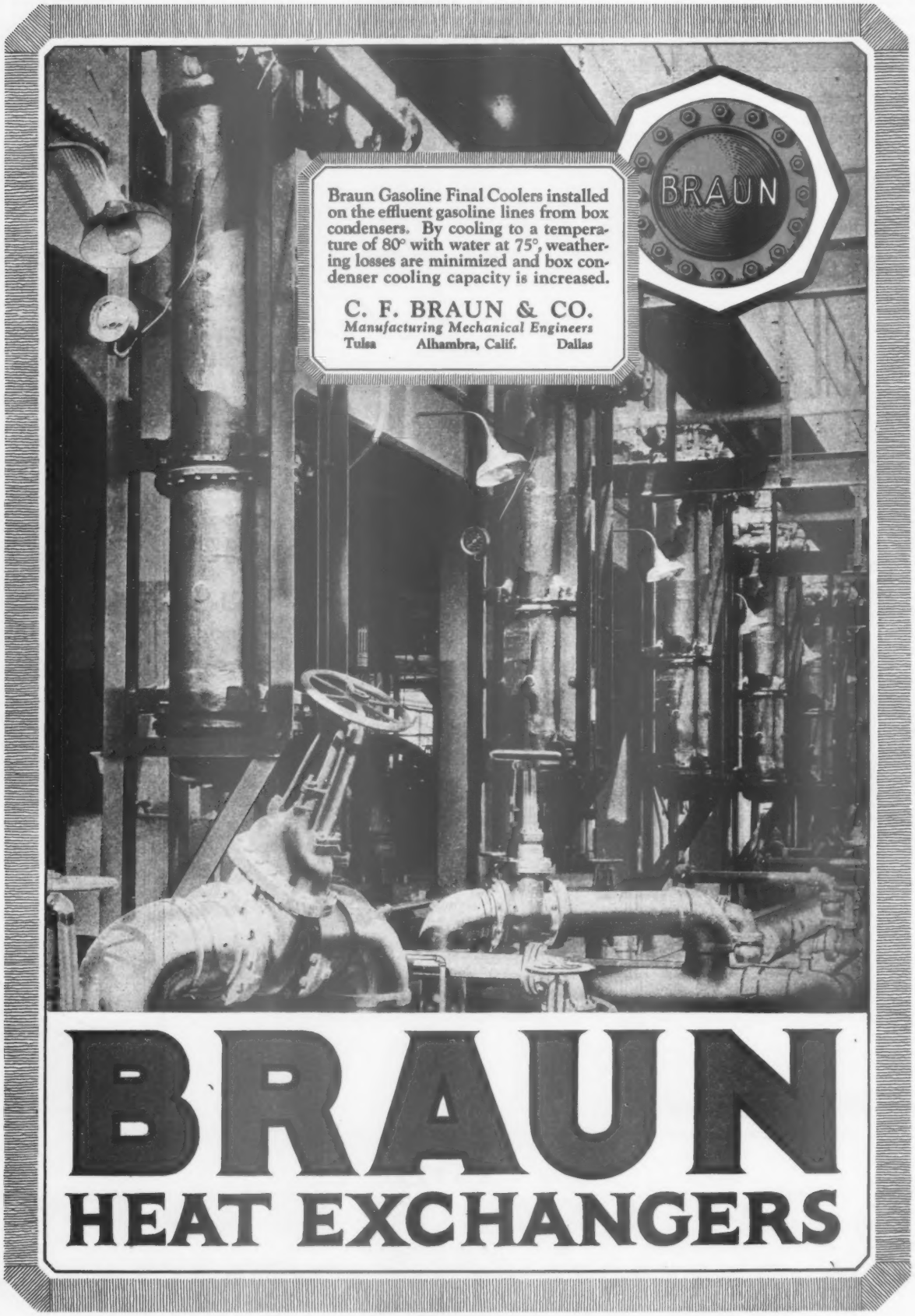

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PRODUCING REFINING MARKETING

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Refinery Section Starts on Page 122

Production Up 7,129 Bbls. Per Day

Highest daily average estimated production week ended May 30, 1925, 2,347,984 bbls. Lowest in 1925, January 3, 1,911,730 bbls.

June's Total Output Nearly 5,150,000 Bbls. Less Than June Last Year, But Refining Efficiency Offsets This Loss

By James McIntyre

Highest daily average estimated light oil production in 1925, week ended January 17, 1,525,220 bbls. Lowest in 1925, July 18, 1,374,173 bbls.

Even so slight an increase in the average daily crude production as 7,129 barrels in a total of 2,037,105 barrels, causes some disturbance in the minds of oil men because of the complex situation which confronts the industry at this midyear period.

There should be no alarm as to production, but nevertheless it is disconcerting. The estimated production of the United States in June of this year is nearly 5,150,000 barrels less than it was in June last year, or a daily average decline of 171,617 barrels from the record of the same month last year, but this big drop in a year of record breaking consumption is offset to a large degree by the remarkable advance in refinery technique which enables not only the cracking plants but the straightrun refiners to get more gasoline than ever before out of a barrel of crude. If it were not for this notable increase in refining efficiency the oil business would be in a fine way with not a cloud in the sky.

The production for the 12 months ending June 30, with June estimated, has been only 744,867,271 barrels, while for the 12 months ending December 31, 1925, it was 759,846,578 barrels, a record breaking output for a year's time. The 12 months' production ending with June, shows a drop of nearly 15,000,000 barrels from the 1925 record and it is reasonably safe to say that by the end of July the record for the 12 months just ended will have fallen to approximately 741,000,000 barrels.

In the past week the Tonkawa Field extension was responsible for Oklahoma's increase of 3,760 barrels a day production, and the Ventura Avenue Field is credited with having caused California's production to increase 4,000 barrels. The Gulf Coast, and the Urania Field in north Louisiana, registered gains in heavy oil production.

The light oil increase for the week was 4,386 barrels per day and the heavy oil increase was 2,743 barrels a day.

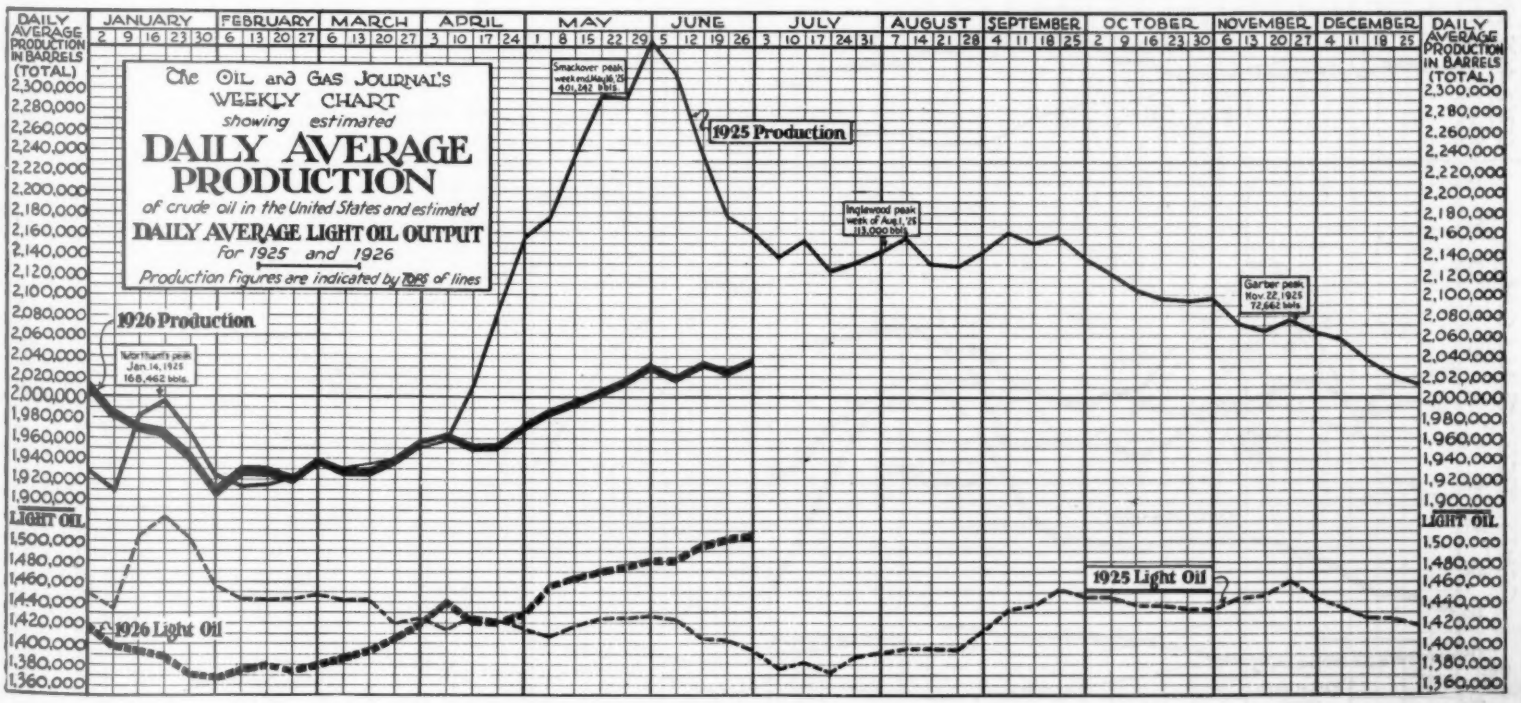
The refining situation was even more unsettled than a week ago. The jobbers are not buying gasoline in anything like the quantity expected of them just before the Fourth of July holiday. They appear to have enough already on hand to make it possible for them to ease off on their purchases, which fact makes it hard for the refiners who are buying high priced crude freely and turning it into products for which there is an insufficient market.

PRODUCTION IN THE UNITED STATES

Estimated daily average production of light and heavy gravity crude oil in the United States for week ended June 26, and a comparison with the previous week follows:

	June 26		June 19	
	Light	Heavy	Light	Heavy
Oklahoma—				
Tonkawa	43,400	.....	36,420	.....
Burbank	44,940	.....	45,530	.....
Other Osage Fields	34,420	.....	34,260	.....
Cushing and Shamrock	21,720	.....	21,760	.....
Bristow and Eastern Bristow	29,560	.....	29,600	.....
Cromwell	17,300	.....	17,480	.....
Garber	35,900	.....	37,200	.....
Blackwell-Braman	17,200	.....	17,490	.....
Davenport	9,700	.....	10,280	.....
Wewoka	29,900	.....	29,540	.....
Northern Miscellaneous	111,690	.....	112,380	.....
Southern Fields	66,620	.....	66,650	.....
Total Oklahoma	462,350	.....	458,590	.....
North Louisiana	42,465	17,505	43,630	15,630
Arkansas—				
Smackover Light	16,410	.....	17,025	.....
Smackover Heavy	.....	123,870	.....	126,000
Miscellaneous	23,820	.....	23,835	.....
Total Arkansas	40,230	123,870	40,860	126,000
North Central Texas	173,760	.....	173,307	.....
Texas Panhandle	49,777	.....	49,716	.....
Powell	29,900	.....	29,900	.....
Mexia, Currie, Richland, etc.	15,760	.....	15,460	.....
Wortham	8,540	.....	8,840	.....
Kansas	108,050	.....	107,540	.....
Total Mid-Continent Area	930,832	141,375	927,843	141,630
Gulf Coast	.....	93,980	.....	90,350
Southwest Texas	.....	38,953	.....	39,585
Eastern	108,300	.....	108,250	.....
Rocky Mountain Area	113,165	.....	115,818	.....
California—				
Santa Fe Springs	48,000	.....	48,500	.....
Long Beach	108,500	.....	109,000	.....
Huntington Beach	44,000	.....	43,500	.....
Torrance	6,100	23,400	6,100	22,900
Dominguez	21,000	.....	20,500	.....
Rosecrans	16,500	.....	16,500	.....
Inglewood	28,200	20,800	28,000	20,500
Ventura Avenue	43,000	.....	39,000	.....
Remainder of State	40,800	210,200	41,000	211,000
Total California	356,100	254,400	352,100	254,400
Total United States	1,508,397	528,708	1,504,011	525,965
Grand Total	2,037,105		2,029,976	

Total Increase, 7,129 Bbls.; Light Oil Increase, 4,386 Bbls.



WHAT AND WHERE TO BUY—PAGES 165-166-167

Oklahoma Refined Market Is Weaker

Higher Gravity Gasoline Purchases Fail to Prevent General Declines. Holiday Buying Slower Than Expected

By Neil Williams

Despite some additional buying of higher gravity gasolines and reports of slightly increased activity in other gasolines, the Oklahoma (Group 3) refined market was noticeably softer the past week and prices on practically all products continued to decline. As a result, general conditions were not materially changed from the week previous.

Whatever buying there was seemingly had no outward effect on the market, except that one commodity, the 60-62 400 grade of gasoline of which substantial quantities were reported purchased, was firmer than other gasolines. Three buyers, one of them an exporter, were credited with placing orders for several hundred cars of this gasoline. The other buyers wanted the gasoline for service station use, it was said.

There also was a slight increase in U. S. Motor gasoline orders reported by some refiners but the spot market still was far from active. The continued slow buying was very disappointing to refiners who had been looking forward to the past week for jobbers to enter the market to cover anticipated Fourth of July holiday needs.

Disappointment at the failure of this expected buying to materialize probably was largely responsible for the weaker tone which was evident Monday and Tuesday as sellers had been confident there would be sufficient Fourth of July demand to strengthen the gasoline picture.

Fourth of July Needs

Although there still are a few days before the Fourth, gasoline to cover requirements for this holiday ought to have been bought before and now ought to be rolling to marketing points. Refiners, however, report that jobbers and other buyers have ordered out contracted material in fair volume but this was considered only a small part of what will be consumed.

Some refiners still are looking for the firming of motor fuel to develop the last of this week with possible last-minute rush orders coming in, or, soon after the Fourth, when the extent of the usually heavy motoring consumption is felt. However, orders for holiday requirements usually are placed in advance and hence any firming following the Fourth would be discounted to some extent.

The continued slow buying on the part of jobbers with the approach of one of the heaviest consumption periods of the year has been the topic of much discussion among sellers the past week. It is evident, market students point out, that the jobbers either have accumulated ample gasoline stocks to carry them well over the Fourth or else feel that markets will not be higher and that they will be able to buy as they need material.

The general tankwagon situation also is expressed by some as being responsible for the comparative inactivity with jobbers more anxious to unload their storage rather than stocking up. It is explained that the decline in tank car gasoline has placed an unusually large margin between these markets and the tankwagon, thus making a reduction in tankwagon postings easily possible at this time.

Although a tankwagon reduction has not been generally talked, it is explained that under the present margin conditions buyers are not likely to risk placing orders for any greater amount of gasoline than actually needed from day

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REFINED MARKET BAROMETER

A generally weaker tone permeated refined markets of the country the past week. With few exceptions, all products were not actively in demand resulting in additional price declines in some areas. Gasoline consumption is reported holding up and an increase is expected over the Fourth of July holiday but this has not been reflected in refinery centers due to large stocks and heavy production of light end products. Kerosene continued to soften with additional price declines in most areas. Demand in all centers was only of a routine nature. Fuel oils were sluggish and only at Atlantic Seaboard refiners were prices firm. Natural gasolines were universally softer, the weakening in the California situation being due largely to offering of large quantities of cheap material from the Mid-Continent. Gas oil and distillates were featureless. Lubricants were spotted. Gulf Coast zero cold test products were less in demand while a general improvement was shown in lubricants in other areas.

Mid-Continent—Refined price trends continued downward. The Fourth of July holiday demand for gasoline was not up to expectations and purchases of higher gravities were not reflected in any market firming. Kerosene experienced another sharp drop. Fuel oils and gas oil also lower. Distillates unchanged with no action. Natural gasolines softer. Lubricants steady.

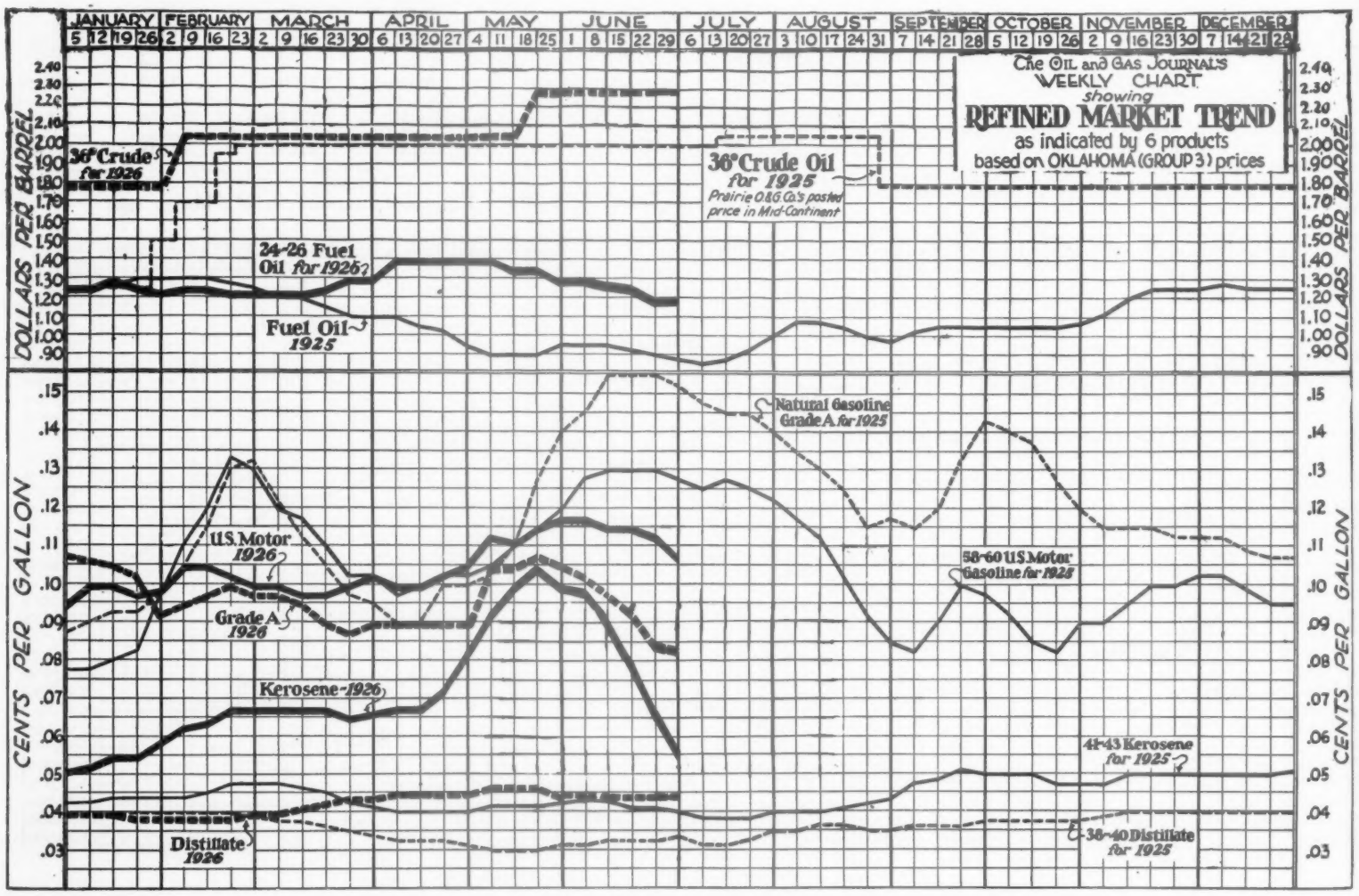
Atlantic Seaboard—Gasoline market unsettled with retail sales disturbed by price cutting. Motor consumption, however, is good. Kerosene unchanged but weaker tone evident. Fuel oil firmness maintained. Lubricants improved. Petrolatum quiet.

Pennsylvania—Gasoline prices steady but general tone weaker. Kerosene demand off. Fuel oil softer. Neutrals firm but demand lighter. Cylinder stocks still weak. Wax strong.

Chicago—Gasoline slow. Jobbers apparently well stocked. Kerosene easier with demand only routine. Distillates quiet. Gas oil firm but fuel oil continues sluggish. Lubricants unchanged.

California—Natural gasolines weaker due to expected competition with Mid-Continent low quotations. Prices down. Other products unchanged.

Gulf Coast—Prices unchanged. Zero cold test lubricant demand slower.


The OIL and GAS JOURNAL'S WEEKLY CHART showing REFINED MARKET TREND as indicated by 6 products based on OKLAHOMA (GROUP 3) prices
JANUARY FEBRUARY MARCH APRIL MAY JUNE JULY AUGUST SEPTEMBER OCTOBER NOVEMBER DECEMBER
DOLLARS PER BARREL
36° Crude for 1926
36° Crude Oil for 1925
Prairie O&G Co's posted price in Mid-Continent
24-26 Fuel Oil for 1926
Fuel Oil 1925
CENTS PER GALLON
Natural Gasoline Grade A for 1925
U.S. Motor 1926
Grade A 1926
58-60 U.S. Motor Gasoline for 1925
Kerosene-1926
41-43 Kerosene for 1925
Distillate 1926
38-40 Distillate for 1925

Prairie May Build Line to Panhandle

Proposed Route From Gray County to Ringling, Okla., Inspected; Preliminary Work on Project Now Being Done

By Andrew M. Rowley

Preliminary work is being done by the Prairie Pipe Line Co. looking towards the construction of an 8-inch trunk pipeline to the Texas Panhandle Field. An inspection of the proposed route indicates the line, if built, will extend from Pampa or Kings Mill in Gray County, Texas, in a southeasterly direction to Addington, Okla., and thence to its terminal at Ringling, Okla., a distance of approximately 208 miles. The proposed line would connect with the Prairie's present trunk line system at Ringling and will permit a transfer at that place to the line of the Oklahoma Pipe Line Co., which connects with the trunk line of the Standard Oil Co. of Louisiana at DeQueen, Ark., if it is desired to ship the Panhandle crude or any of it to the south to the 70,000-bbl. refinery of the Standard Oil Co. of Louisiana at Baton Rouge, La.

While it is said an actual decision to construct the line to the Panhandle has not as yet been reached, all indications point to the carrying out of the proposed project unless there is a very material change in conditions in the Panhandle Field.

Factors Affecting Decision

The decision to construct the line rests on two conditions which affect the building of any pipeline. The first is that production of the area to be reached is such as to warrant the vast expenditure necessary to build the line and that there is good promise of that production being maintained for a sufficient length of time to permit a reasonable return on the investment of the line. Secondly, there must be assurance that there are buyers of crude at the other end of the line who are willing to contract for it over a period which would insure business for the pipeline for a sufficient length of time to give the pipeline company at least a gambling chance to get its money back.

The quantity of crude oil in storage in the Panhandle is an important factor linked with the question of the field's production. The pipeline company must be assured there is a large supply of crude above ground, available for shipment through the pipeline, assuring the line business as soon as the line is ready for operation.

The Prairie Pipe Line Co., in pursuance of its business of transporting crude oil, naturally has been watching the Panhandle Field very closely for a long time. Any area producing as much crude as is the Texas Panhandle, with development being carried on at such an extensive scale as is being done in that field, attracts the attention of all companies engaged in the transportation of crude oil. Officials of the Prairie Pipe Line Co., including W. F. Gates, president; Clark Kountz, vice president; George Coyle, general superintendent; C. R. Weidner, chief engineer, and others have made several trips to the Texas Panhandle, investigating conditions, and last week completed an automobile trip over the route they feel is most desirable for a pipeline, should it be decided to build the line.

Production and Storage

On this inspection trip, Mr. Weidner and the other officials figured the elevations along this proposed route, distances and the tentative locations of pump stations. The capacity of the proposed 8-inch line would be between 20,000 and 21,000 bbls. a day. Should this line be constructed and the Texas Panhandle continue to develp and its production increase, additional lines probably would be laid along the line, increasing the capacity accordingly.

Factors involved in the decision to build a pipeline to the Texas Panhandle are that the field now is producing crude oil at the rate of 49,777 bbls. daily; that there is 998,000 bbls. of crude above ground in storage in that area; that there are approximately 260 wells drilling, 186 wells producing and 185 rigs and locations. The crude in storage in the field includes 345,000 bbls. in Carson County; 240,000 bbls. in Gray County; 385,000 bbls. in Hutchinson County; 17,000 bbls. in Potter County, and 11,000 bbls. in Wheeler County. In addition several operating companies have announced plans for a more extensive development of their holdings, with indications production may be expectd to increase when these operations become completions.

The construction of a pipe line to the Texas Panhandle by the Prairie Pipe Line Co. would have an immediate and vast effect upon operations and development of the area. The fact the Prairie organization felt the field to be of sufficient importance to warrant the expenditure required to build a 200-mile pipeline to it, alone is sufficient to stimulate development exceedingly. This pipeline company is noted for its conservatism, its almost uncanny judgment in the laying of its lines to new producing areas, and for the wide experience of its officials who decide the questions involved in the laying of a line. Consequently, if these officials feel the Texas Panhandle warrants the expenditure necessary to build the proposed pipeline, it will probably be the biggest boost the Texas Panhandle Field has had since its discovery.

Will Take Considerable Time

It will require considerable time to build a pipe line 208 miles long. Should the Prairie decide to construct the line, the first thing to be done is for the engineering department to conduct a thorough survey of the territory to be covered. This department will then prepare maps showing properties to be crossed and the locations of pump stations. It also will prepare designs for the pump stations with recommendations as to the kind of power to be used, type of pumps desired, etc. It is entirely probable fuel oil will be used on the line which will mean Diesel engines in the stations.

When the survey is completed and maps prepared, the right of way department then must see all property owners and obtain right of way contracts. Then the pipe must be ordered and this will be delivered at points along the entire line where the line is within easy reach of railroad connections. Gangs of men will then start ditching, stringing the pipe and laying the pipe. The Prairie welds all its trunk pipe lines and welding gangs will be strung along the length of the proposed line. These welding gangs can weld approximately one mile of pipe a day.

Vast Cost of Such a Line

Should the Prairie Pipe Line Co., construct the proposed line, its cost would be approximately $4,038,400, which would include the cost of right of way, clearing the right of way, damages, the survey, ditching, welding the pipe, laying the pipe, testing the line, the camps necessary for workmen and the six pump stations which would be required, a pump station being located every 35 miles along the line.

The various companies have been experimenting for a long time with the Texas Panhandle crude, as a large part of the production of that area congeals at a temperature of 55 degrees Fahrenheit and will not flow through pipelines unless treated. This problem of treating Texas Panhandle crude to make it available for pipeline use has taxed the brains of the industry and several solutions have been offered. But the fact the Prairie Pipe Line Co. has taken the initiative steps towards constructing a line indicates that company, at least, has found a solution to the big problem and that if it builds the line, it will be able to ship the Texas Panhandle crude through it.

This question of handling Panhandle crude by pipeline probably will interest the petroleum fraternity almost as much as the actual construction of the pipeline. Compounds have been offered to separate the basic sediment content of crude but the problem of breaking down the viscosity of the crude is said to be an entirely different matter and one which must be solved before this crude can be shipped through pipelines in winter. The weather gets mighty cold in the Texas Panhandle during the winter months and an oil that congeals at 55 degrees must be treated in some way to move it through the lines in winter. Of course such crude can be moved by heating it under pressure but such a method would be extremely costly and would entail heating plants all along the line.

But, as stated above, if the Prairie Pipe Line Co. decides to build the proposed line, it can be taken for granted a solution has been found to the problem of handling the oil.

Now Shipping by Tank Cars

Much of the production of the Texas Panhandle is being shipped from the field in tank cars, the only pipelines in the field being small gathering lines and short lines to loading racks. There is not a pipeline leading from the field to any area outside where the crude can be delivered to outside markets. This fact has probably been the greatest factor holding back the development of the territory. The tank cars are delivering Panhandle crude to the Marland Oil Co. and to the Gulf Coast ports in Texas.

It is believed much of this crude which is being shipped from the field in tank cars will be available for transportation through the pipeline if the Prairie lays the line. Bringing the crude to Ringling, Okla., will make it available for shipment to practically all markets in the country as the Prairie can ship it north through its lines which extend to refineries of various companies, terminating at Wood River, Ill., where is located the big refinery of the Standard Oil Co. of Indiana and also to that company's big refinery at Whiting, Ind., which is another terminal of the company's trunk line system. Also, as stated above, transfer can be made at Ringling to the line of the Oklahoma Pipe Line Co., which line connects at DeQueen, Ark., with the line of the Standard Oil Co. of Louisiana to Baton Rouge, La.

BIG MONEY PAID FOR UNDEVELOPED ACREAGE IN KERN COUNTY, CALIFORNIA

By L. P. Stockman

LOS ANGELES, Calif., June 26.—After lying dormant for ten years or so, that area lying just north and adjacent to the Kern River Field and extending northward some 15 or 20 miles has become the scene of one of the most extensive leasing campaigns undertaken in California during recent years and a considerable part of this acreage, which but a comparatively short time ago could be purchased in fee for from $10 to $25 an acre, is now commanding fabulous prices, considering the limited amount of data available. Just the other day the General Petroleum Corp. paid a cash bonus of $86,000 for a lease on 160 acres of potential oil land on the Kern River front in Section 14-28-27, after some of the most spirited bidding witnessed in Kern County in a long time. Bidding opened up at $100 an acre but representatives of the Union Oil Co., General Petroleum Corp., George F. Getty and the California Petroleum Co. soon raised the ante to $200 an acre. When this point was reached George F. Getty eliminated a lot of prospective purchasers by bidding $510 an acre and a one-sixth royalty, which the General Petroleum Co. raised to $525 per acre. Mr. Getty countered with another bid of $85,000 but the General Petroleum Corp. cinched the deal by raising the cash bonus to $86,000, which was equivalent of $537.50 per acre, the royalty on oil and gas production remaining at one-sixth. The acreage involved, which belonged to the late Col. Charles S. Young and was offered for sale before his death for $10 per acre, lies just south of the Standard's Gates property and should yield 75-bbl. pumpers from around the 1,500-foot level. It would seem that the General Petroleum Corp. paid a top price for this acreage, which is about 7 miles southwest of the Shell's No. 1 Vedder in the Mt. Poso area, but this company was prepared to bid up to $750 an acre bonus if necessary to secure the lease. The property will undoubtedly prove long lived and if the General Petroleum Corp. continues to supply fuel oil to the Santa Fe Railroad there is little doubt but that the company made a good buy.

Revival Followed Overproduction

Interest revived in the possibilities of Kern County immediately following the overproduction situation in 1924, at which time several dusters were drilled up on the Kern River bluffs just outside of Bakersfield by the Pan American, St. Helens Petroleum and others. George F. Getty, the Petroleum Securities and Marland began their extension work a little later on the Kern River front in Sections 14, 16 and 22 in Township 28 south, Range 27 east, all three developing shallow production, the oil being rather heavy, running around 14.5 degrees, and the wells being good for an average initial daily production of approximately 100 bbls. This drilling focused the attention of operators on the possibility of extending the field still farther and in consequence additional work was undertaken.

The Shell during this time had been centering its efforts farther north in the area known to old-timers as Poso Creek but now being designated as the Mt. Poso district. The success which attended the Shell's efforts in this vicinity is of course well known at the present time in view of the fact that the company's No. 1 Vedder, in the extreme northwestern part of Section 9, Township 27 south, Range 28 east, was instrumental in revealing California's latest oil field. This well, which is a little more than 8 miles northeast of the old Kern River Field and about 20 miles from the city of Bakersfield, was originally finished at 1,922 feet and, although the initial output was around 100 bbls. daily, it later built up and maintained a daily

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21 Projects in Fundamental Research

Geology, Physics and Cremistry of Petroleum Recommended for Study and Treatment. Suggestions and Criticism Invited

By L. M. Fanning

New York Bureau, The Oil and Gas Journal, Room 543, 30 Church St., New York

NEW YORK, June 29.—The American Petroleum Institute today issued a bulletin containing the announcement of 21 projects in fundamental research in the geology, physics and chemistry of petroleum, recommended to the institute by the Central Petroleum Committee of the National Research Council.

"With the consent of the Central Petroleum Committee," the bulletin says, "they are submitted to all persons, within and without the industry, for their c o m m e n t, suggestions and criticisms. Other proposals are freely invited. The American Petroleum Institute is a democratic organization, and desires the full co-operation of the industry and all interested p e r s o n s in the formulation of programs for action.

"The personnel recommended in various technical institutions is omitted. Announcement of such personnel will be deferred until final action by the appropriate committees of the institute."

The criticisms and suggestions made relative to the projects will be passed upon by the Research Committee of the Institute and the trustees administering the Rockefeller research fund.

It is understood that the proposals outlined will call for the expenditure of the greater part of the annual donations, totaling $100,000, provided equally for a period of three years by John D. Rockefeller in his original gift establishing the fund and by the Universal Oil Products Co.

Following are the statements of projects and the plan of operation in the research program:

Generation of Oil in Rocks

That oil is produced by geological forces acting generally through long intervals of time on the debris of aquatic organisms buried in the sediments is believed by most geologists. The evidence is almost overwhelming, though it is largely circumstantial, that petroleum is a geochemical result of rock pressure and earth temperatures working through long time, and possibly under catalyzing influences, on fossil organic matter, which is generally regarded as the "mother substance." The rocks in which this fossil organic matter occurs are frequently spoken of as "source rocks."

The combustible vestiges of plants, and possibly of animals, entering into the m o t h e r substance are generally those more resistant to decay in water, on account of their waxy, resinous, waxy-fatty, fatty or oil composition which characteristically imparts to the aggregate deposit relatively high hydrogen and low oxygen content. Specifically, the principal among t h e s e surviving vestiges of structure, plant secretion, etc., are (1) spore exines, (2) so-called fatty algae, (3) fragments of cuticles, (4) particles, or flakes, of wax and resin, the latter usually rare in the typical mother substance, and (5) the "humic" (or "ulmic") colloidal decomposition binder. All of these kinds of fossil components may be present and the "humic" binder is always present. In some cases nearly all the debris of plants or animals seems to have succumbed to bacterial action in the process of biochemical decomposition.

Some of the organic compounds in the plant or its secretions, such, for example, as waxes, spore exines and resins, doubtless pass the biochemical process and enter the unaltered sedimentary deposit with little or no chemical change. However, the organic aggregate, comprising both the fossil plant and animal debris, on the one hand, and the humic decomposition matter, on the other, is known to undergo progressive devolatilization (carbonization) as the deposit is, under dynamic (geophysical) influences, altered, stage by stage, from the organic mud (sapropal) to black slates and graphitie schists.

Varied Geological Beliefs

Most geologists believe that the primary petroleums are in the course of time generated in the buried mother substance under (1) the influence (geophysical) of intermittent pressure and heat; (2) added pressure by the generated gases; (3) heat of gravitative friction; and (4) heat of chemical change.

On the other hand, there are many, especially among the British geologists, who believe that either the oils were originally brought to the deposit by the organisms taking part in the sediments, or that they were generated during deposition as products of biochemical (microbian) action. In either case the oils existed, presumably disseminated, in the sediments at time of deposition of the strata. According to this view oil is at the outset deposited in most carbonaceous aquatic, especially marine sediments.

Still another, though small group among geologists, adheres to an entirely inorganic origin of oil, through generation from carbides or similar compounds of plutonic origin, coming from far beneath the sedimentary strata in which they are now found.

Another, a very large group of geologists, including, perhaps, most European geologists, together with most chemists, believe that the petroleum deposits of the world are mainly, at least, the product of alteration, either in the biochemical process or subsequent to burial, of animal fats, rather than of organic matter of plant derivation. The theory of the generation of hydrocarbons from metallic carbides can be successfully demonstrated in the laboratory, but it is so incompatible with the geological occurrence of oil observed in the field as to command little consideration.

Of great importance, however, is the question as to the primary contribution (as by diatoms) or the generation of the oil through the biochemical decomposition processes at time of deposition of the organic debris in the sediments, on the one hand, as opposed, on the other, to the generation of the oil at different times long afterward by what might be termed natural geological distillation in the crust of the earth. The latter view implies the restriction of oil fields to areas subjected to compressive stresses.

Pressure experiments carried out by McCoy and Trager (Journal of Geology, Vol. 28, 1920), under rather unfavorable conditions, appear to furnish evidence favoring the generation of oil under shearing pressure. The experiments by Steuart, by which finely disseminated oil, mixed with argillaceous matter, was occluded and carried down with other sediments, seem undeniable. It will be remembered, also, that the claims of the chemists as to the role of animal fat in oil genesis, have strong analytical support.

Proposed Plan of Research

The experiments in view are principally shearing-pressure tests, with varying factors of t i m e, pressure, temperature, catalysis, solutions, etc. They should be more carefully and adequately organized, and more exact, and should more nearly duplicate geological conditions than those previously carried out. The plans are based on the assumption that oil is generated from commonly supposed "mother rocks,"—typical oil shales or marine bituminous (carbonaceous) shales, — under loading of superposed strata, by pressures (mainly intermittent horizontal thrusts) operating through long periods, with heat of depth of burial, heat of friction, and heat of chemical change, and with added pressures of the resulting gases and oils. Great pressures will be exerted variably, intermittently, and through considerable periods, with conservation or maintenance of the heat generated or proved normal to the process.

The experiments by McCoy and Trager, and others, as well as the observation of the effect of the geologic processes in the oil fields, including the progressive devolatilization of the organic debris, argue for the success of the experimental project. Complete demonstration has long been greatly needed.

Artificial Carbonization

Intimately involved in the generation of oil in mother rocks under geodynamic influences, primarily intermittent shearing stresses and geologic pressures and temperatures, is the progressive carbonization of the organic rocks; for if the oil is generated geochemically under the combined influences of the geophysical factors the organic matter will have lost volatile matter,—that is, it presumably will have become progressively carbonized in the process.

Accordingly, the p l a n s covering the shearing-pressure experiments in Project 1 provide also that the oil shales and other supposed mother rocks used in the experiments will be examined chemically after the v a r i o u s tests to determine whether they are further carbonized in the processes, with loss of volatile matter. Meanwhile, however, to m a k e the studies of dynamic carbonization more comprehensive, it is planned to carry out experiments on a wider range of carbonaceous sediments, chosen at the outset as representing both different types of rock and markedly different stages of carbonization. These studies not only are most closly related; but they are inseparably connected.

Use of the Micro-Furnace

The studies of source rocks in the micro-furnace (micro-thermal examination of mother rocks of petroleum) carries the work of paleontologist and sedimentarian to the retort. Preliminary investigation already has given evidence that leads geologists to believe much of value concerning the nature of oil shales would here be assembled.

This study has for its immediate object the observation and determination, by means of a micro-furnace, of the temperatures at which the optically distinguishable fossil components and their derivatives in the varied organic conglomerates that make up the different types of bituminous shales. "Oil shales," and other carbonaceous rocks change their optical characters, volumes, and state of matter, some at least, of which changes are incidental to chemical change.

At present on one knows what are the products actually yielded by the different components—algae, exines, cuticles, mycelia, groundmass, etc.—in any g i v e n sample of shale when it is distilled, or what qualities or elements in the distillate originate from each of these commodities when the rock is subjected to heat decomposition. Neither the role played

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APPROVE CHANGES IN SPECIFICATIONS RECOMMENDED BY D-2. ELECT OFFICERS

By L. M. Fanning

ATLANTIC CITY, N. J., June 26.—Recommendations of Committee D-2 on Petroleum Products and Lubricants presented at the twenty-ninth annual meeting of the American Society for Testing Materials held here June 21 to 25 inclusive, were approved by the society. The following recommendations were approved after having been submitted to letter ballot of the committee and were passed upon by the society:

1. Advancement to standards: Method of test for viscosity of petroleum products and lubricants (D 88-25 T).

2. Proposed new tentative standards: Method of test for burning quality of mineral colza oil. Method of test for determination of the thermal value of fuel oil.

3. Proposed revision of existing tentative standards: Penetration of grease. Analysis of grease. Sulphur in naphthas and illuminating oils. Distillation of gasoline, naphtha, kerosene and similar petroleum products. Neutralization number of petroleum products and lubricants Burning quality of long-time burning oil for railway use.

The method of test for viscosity of petroleum products and lubricants which is approved as a standard now is to be submitted to letter ballot of the society before it is finally approved as standard.

Cases have been brought to the attention of Committee D-2 where apparatus represented as meeting A.S.T.M. standards, is not in conformity, and this matter came up for discussion. Another matter which promises to be highly important is in connection with the committee's development of a skelton form of specifications for oils used for domestic heating.

On the evening of June 23 the committee tendered a dinner to W. H. Fulweiler, of the United Gas Improvement Co., and retiring president of the American Society for Testing Materials and a member of the committee. It was attended by about 50 representatives. E N. Hurlburt, of the Taylor Instrument Co., acted as toastmaster.

Officers of Committee D-2 were elected as follows: F. A. Hull, of the General Electric Co., chairman, succeeding C. P. Van Grundy; K. G. Mackenzie, The Texas Company., vice chairman, and R. P. Anderson, American Petroleum Institute, secretary. The advisory subcommittee comprises the above officers and the following members. J. T. B. Bowles, Crown Central Petroleum Co.; T. G. Delbridge, Atlantic Refining Co., Frederick Keeney, New York City Central Testing Laboratory; E. N. Hurlburt, Taylor Instrument Co.; J. B. Rather, Standard Oil Co. of New York, and C. A. Lunn, Consolidated Gas Co. of New York.

Petroleum Products and Lubricants

A summary of the report of Committee D-2 submitted by Mr. Van Gundy and approved by the society follows in part.

The committee is presenting for approval for publication as tentative standards, the following proposed methods of test:

1. Method of Test for Burning Quality of Mineral Colza Oil. This method is based on Method 210.41, Bulletin No. 323-A, United States Bureau of Mines, and on the principle of fixed oil consumption rather than fixed burning time.

2. Method for the Determination of the Thermal Value of Fuel Oil. The recommendation that this method be adopted as a tentative standard is based upon experimental work covering a period of two years, and the data that have been

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Large Increase in Gasoline Recovery

Refiners Making Greater Strides Than Ever Before Responsible For Decline in Gasoline Prices. Natural Gasoline Also Important

By C. O. Willson

REFINERS DRILLING MORE WELLS THAN PRODUCERS

Refiners in the United States, aided by the natural gasoline manufacturers, are drilling more wells than the crude oil producers.

This is one way of expressing the outstanding statistical development this year in which refiners are saving more crude oil than the added supply they are obtaining from producers to satisfy an increasing demand.

Government reports for the first four months of this year show that producers only furnished the refiners 11,869,000 bbls. (98,908 bbls. daily) more crude than the same period last year. By increasing their gasoline recovery from crude from 35.13 per cent to 37.19 per cent, the refiners saved 208,877,382 gallons of gasoline.

This large saving in gasoline when transformed to crude oil meant a saving of 14,156,763 bbls. or 117,973 bbls. daily. Thus the refiners through efficiency saved more crude than the additional supply furnished by the producing branch of the industry.

This saving took care of 54.4 per cent of the increase in the domestic gasoline demand and 38.9 per cent of the combined export and domestic increase. The accompanying article points out additional developments in the manufacturing branches of the industry which are directly responsible for present market conditions, including the recent slump in gasoline prices.

The oil industry during the past few weeks has been witnessing a development which probably has no parallel in its history. Gasoline prices at the refinery have been steadily declining despite the fact that gasoline consumption has shown a large increase and crude production is substantially less than the same period last year.

Declining prices in the summer peak of gasoline demand is not new in the oil business. A review of the past few years in fact will show that this has been too often the unfavorable development. It has usually been possible, however, to explain the unwanted trend as due to the fact that there was a large increase in crude production which flooded the market so that even a constantly increasing gasoline demand could not readily absorb it.

In other words, it has been reasonably safe in the past to blame the producer as the source of all marketing ills with comparative statistics available to prove the case.

A glance at the graph on page 19 of this issue showing the crude production just explained and then turning to the graph on the following page where the gasoline price is shown will lead to the conclusion that something new in explanations is needed.

Without presenting all the detailed data which are available to those interested, the writer will attempt to summarize briefly a few of the developments this year which tend to show that the increased efficiency of the manufacturing branches of the industry rather than the producer of the raw material is responsible for the unsatisfactory prices now prevailing at the refinery for gasoline and which, if not remedied, seriously threaten the retail price structure and the crude schedules.

The latest available reports of the government show that the first four months of this year the crude producers furnished the refiners 241,330,000 bbls. of crude oil which the latter by running through their stills manufactured into 3,769,605,000 gallons of gasoline. Last year for the same period 229,461,000 bbls. of crude were furnished and 3,385,529,000 gallons of gasoline refined. Both gasoline totals include the natural gasoline blended by refiners.

By the process of subtraction it is apparent that from 11,869,000 extra barrels of crude furnished by the producers the refiners made the 384,076,000 extra gallons of gasoline. The use of division will show that this was due to the fact that the average gasoline recovery from crude was 35.13 per cent (14.754 gallons per barrel) while this year it was 37.19 per cent (15.619 gallons per barrel.)

Saving in Crude

The significance of this increased efficiency becomes more apparent when it is translated into terms of crude oil saved. By multiplying the crude oil furnished by the producers this year by 35.13 and reducing the quotient to gallons you get 3,560,727,618 gallons which represents what the refiners would have obtained this year had their average efficiency been the same as last year. Subtracting this from the 3,769,605,000 gallons which they actually refined and you have 208,877,382 gallons of gasoline saved due to progress in refinery processing.

In terms of crude oil this 208,877,382 gallons represents a saving of 14,156,763 bbls. for that additional amount of crude would have been necessary to produce the gasoline based on last year's refinery practices. In other words, while the producers furnished 11,869,000 additional barrels of crude oil, most of which came out of storage, the refiners saved 14,156,763 bbls., or 117,973 bbls. daily during the first 120 days of the year. The importance of this strikes home when it is realized that this daily saving is greater than the peak production for the same length of time of a Tonkawa, Garber and most of the major pools of the past.

Turning from the consideration of production to that of consumption and the market importance of the refiners' efficiency becomes even more significant. The industry so far this year has had its usual increase in gasoline demand over the same period last year, the only statistical development unfortunately in which many observers are interested. The first four months the domestic demand totaled 2,966,543,000 gallons which was 383,633,000 gallons or 14.8 per cent greater than the same period last year.

Importance in Consumption

This substantial increase loses part of its significance as a market factor, however, when it is remembered that the 208,877,382 gallons saved took care of 54.4 per cent of this additional requirement.

The export demand has increased more rapidly than the domestic demand. The export demand, the first four months of this year, was 583,107,000 gallons or a 33 per cent increase over last year. However, combining the increases both in domestic and export demands, and the refiner by his increased gasoline recovery took care of 38.9 per cent of the total increase in consumption.

Still another way of emphasizing the importance of the gasoline saved is to compare the stock accumulations for the two years. Gasoline stocks in the United States on May 1 (latest available) totaled 1,926,725,000 gallons, an increase of 209,133,000 gallons over May 1 of last year. Gasoline stocks increased 278,399,000 gallons the first four months of this year. Thus the 208,877,382 gallons accounts for 75 per cent of the increase of stocks since the first of the year and all of the increase from May 1, 1925, to May 1, 1926. Since the gasoline stocks accumulated earlier in the year are largely responsible for the recent decline in gasoline prices, the immediate importance of additional gasoline recovery is readily apparent.

Trend to Continue

The writer is aware that this increased recovery of gasoline from crude is not just a development of the past year. Government reports reflect the fact that it has been steadily increasing ever since gasoline became the most important product obtained from crude. However, it so happens that the rate of increase has been more rapid in recent months and in relation to consumption has increased in importance. Last year a comparison based on the first half of the year showed that the greater recovery only accounted for 27.2 per cent of the increased demand.

The increasing importance is further demonstrated when the government data for April of this year are compared with April of last year. Making the same comparisons as were made for four-month periods of the two years and the data show that the gasoline recoveries bore the relationship of 38.4 per cent and 34.9 per cent, an increase of 3.5 per cent in one year. This means for the month a saving of 89,258,838 gallons of gasoline or 6,088,940 bbls. of crude.

The producers were only called upon to furnish 2,109,000 bbls. more crude than in April of last year. The increase in domestic demand for the same month of the two years was 33,105,838 gallons and the export demand increase was 75,141,000 gallons.

These demand increases, when compared to the 89,258,838 gallons saved, show that the increase in efficiency was approximately two and one-half times the increase in domestic demand, 20 per cent greater than the increase in export demand and 82.4 per cent of the total increase. In order that an exaggerated idea of the importance of gasoline recovery will not be obtained it should be borne in mind that the increase in domestic demand this April over the same month last year was below normal due to the fact that the consumption was abnormally high in April, 1925, because of favorable weather.

Take Care of Increase

There can be no doubt, however, that the industry is rapidly reaching the point where refiners—provided relative crude and gasoline prices justify—can take care of the yearly increase in gasoline consumption without the purchase of additional crude supplies. Relative to this, the statement is occasionally heard that cracking installations are nearing the saturation point.

No statement could be further from the truth. Refinery engineers generally agree that the future holds at least as much as the past in regard to the gasoline recovery from crude. One well known engineer recently said that it had been during only the past year or two that the refining industry generally had known enough about the art of cracking to begin to realize its potentialities in plant operation. His thought was that not only would there be more new installations but there would also be numerous improvements which would be reflected in a steady climb in gasoline recovered from crude. A comparison of cracking operations two years or even a year ago with the modern unit certainly substantiates this statement.

Replacement Programs

In this connection it is interesting to note the replacement programs now under way among some of the larger refiners. About a year ago the Standard Oil Co. of Indiana started operating several Holmes-Manley cracking units at its Whiting, Ind., refinery. This process of the tube and tank type is controlled by The Texas Company and differs essentially from the Burton process of the Standard, the pioneer of all cracking units.

It is now known that the Standard, after testing out the first units, is building more of the Holmes-Manley type at Whiting with a program which calls for the installations at all its other refineries, including the Casper, Wyo., plants of the Standard and Midwest Refining Co. This simply means that the management has deemed it advisable to replace the Burton equipment as fast as possible with a new type of still which will give greater yields at less cost.

In the east it is known that the Tidewater Oil Co. is installing several units of a cracking process controlled by the Standard Oil Co. of New Jersey commonly known as the "tube and tank" process. These will also partially replace equipment of the Burton type which a few years ago was considered the last word in cracking units. The Standard Oil Co. of New Jersey has also been replacing its old cracking equipment with the new.

Among the other units such as Cross, Dubbs and Jenkins improvements are constantly being made. Practically every new installation made gives greater yields or lower costs or both.

Natural Gasoline

As previously explained the data on gasoline production at refineries includes the natural gasoline purchased by refiners and blended at their plants before the finished product is moved to distributing stations. Due to the manner in which the statistical reports on natural gasoline are handled by the government the real importance of natural gasoline in determining the market price of all motor fuels is often overlooked.

The government report shows that the first four months of this year, natural gasoline accounted for 259,452,000 gallons or approximately 7 per cent of the total gasoline produced at refineries. This is a 30,720,000-gallon, or approximately 12 per cent, increase over the amount used at refineries the first four months of last year.

These figures tell only part of the story. The government report also shows that the total production of natural gasoline for the first four months based on reports from the manufacturers was 428,700,000 gallons, an increase of 86,733,000 gallons, or 25 per cent over the same period of last year.

This shows that refiners are only using 65 per cent of the natural gasoline produced. The bulk of the remainder is sold to independent jobbers who do their own blending. Part of the production is moved to distributing stations of the larger companies and so is not accounted for in the refinery reports.

This 35 per cent is usually not considered in motor fuel surveys. This gasoline is blended at the bulk stations of the jobbers and refiners and adds to the total supply of gasoline just as much as if it were blended at the refineries.

It will also be noted that the natural gasoline production is increasing more rapidly than the demand from refiners.

(Contiued on Page 138)

XUM

Future Possibilities of Creek County

Geological Study Including Origin and Interpretation of Structural Features of Northeastern Oklahoma

By J. W. Merritt and O. G. McDonald*

SUMMARY AND CONCLUSIONS

The rocks outcropping at the surface comprise the upper formations of the Pennsylvanian, and the rocks penetrated by the drill range downward through the Pennsylvanian, Mississippian, Devonian, Silurian, Ordovician and Cambrian and into granite. The chief unconformities come below the Pennsylvanian, below the Chatanooga and Misener, below the Viola, below the Burgen and below the Arbuckle.

The general structure of the region is that of a westward dipping monocline, interrupted by anticlines, terraces, synclines and faults. The faults are mostly normal (only one thrust fault being recorded) and strike northwestward and tend to fall in enechelon belts trending northeast-southwest. Some northeast-southwest en echelon compression folds and a few larger northeast-southwest anticlines lying more northward than the compression folds just mentioned are found. Some tension folds in the form of northwestward plunging anticlines also occur, together with a number of folds of irregular shape probably caused by a combination of forces.

The authors discuss many theories previously formulated to explain the origin of the numerous small structures of this portion of the Mid-Continent Field, such as vertical uplift, compacting, direct tangential compression, and various phases of the rotational stress theory. They find the formation of such small structures by direct uplift difficult to explain. They find the shape and position of the structures, together with the absence of close folding and other evidences of intense thrusting between the Mid-Continent fields and the Ozarks (the supposed source of tangential thrust) arguing against that theory as an explanation of the origin of the small structures. They present diagrams and other arguments proving the inadequacy of compaction as a cause of the formation of these structuers. Following this, they conclude that, while some structural conditions in the northern Mid-Continent area may be explained in part by one or more of the other theories, that of rotational stress set up in the sediment by horizontal movements in the basement complex, caused by thrusts originating in the Ouachita Mountain region, of southeastern Oklahoma and northwestern Arkansas, best serves as an explanation of the origin of the structural forms found in the northern Mid-Continent area. The authors admit, of course, the possibility that some of the other forces mentioned may have slightly modified the effects of the group of forces finally accepted as chiefly responsible.

From the above studies the authors believe that an application of the accepted rotational stress theory may lead to the discovery of small obscure or hidden structures in this as well as adjacent counties, and may be followed by the development of additional production. An application of the same theory also is made to the relative evaluation of different types of structure and to the choice of drilling sites on the various kinds of structures discovered.

Active development in Creek County, Oklahoma, began in 1906, when the famous Glenn Pool was discovered. The first well was completed in this pool in December, 1905, and by the end of 1906 about 110 wells had been drilled. The maximum production from the Glenn Field was obtained in October of 1907, when 2,441,662 bbls. were produced for the month. The Cushing Field was opened in 1912, with the maximum production coming in June, 1915. The Slick Pool was developed in 1919 and 1920, and activity continued into 1921. The Continental, or Bristow Pool, was opened up in 1921 and 1922. During the period between the development of the Cushing Pool and the Slick and Continental Pools activity, which was an era of prevailing high prices for oil, many smaller fields were discovered. Active development has continued in Creek County up to the date of the present writing. In recent years, also, some old shallow pools have been given new production from deeper sands.

Areal Geology

The rocks appearing at the surface in Creek County have been most recently described by Gould in Bulletin No. 35 of the Oklahoma Geological Survey. They comprise a portion of the upper Pennsylvanian, and range from the Coffeyville formation upward to, and including, the Pawhuska formation. The Checkerboard limestone, which lies near the base of the Coffeyville formation, outcrops near Mounds and crosses the southeastern corner of Creek County. The upper limestone member of the Pawhuska formation caps the high hills near Drumright in the northwestern part of the county. The strike of these and intermediate formations is approximately north 20 degrees east, and they lie in belts of irregular width which cross the county in parallel form.

Stratigraphy

Surface Formations. A brief description of the formations exposed at the surface in Creek County, largely quoted from Bulletin No. 35 of the Oklahoma Geological Survey, arranged in ascending order, is as follows:

The Coffeyville formation has an average thickness of about 300 feet. The lower part is made up largely of bluish or greenish gray shales. In this portion, near the bottom, is found the Checkerboard limestone. The latter has a thickness of 2 or 3 feet and is bluish-white when freshly exposed and yellowish-white when weathered. It is fine grained and fossiliferous. The Coffeyville formation grades upward into sandstones of gray to brown color.

The Hogshooter limestone, locally known as the Lost City limestone, is a single bed of limestone with a maximum thickness of about 20 feet where it enters the county just south of Sand Springs. It thins southward. It is well jointed and presents a "shelly" appearance upon weathered surfaces. Its color is medium to light gray. This is the basal formation of the Drum group.

Nellie Bly Formation

The Nellie Bly formation is made up of alternating beds of shale and hard gray sandstone. The thickness in the northern part of the county is about 200 feet. It is the middle formation of the Drum group, and overlies the Hogshooter limestone and is immediately overlain by the Dewey limestone.

The Dewey limestone in Creek County is a shaley blue-gray limestone which frequently weathers to dark grayish yellow or brown. It varies in thickness up to 8 or 10 feet. It is usually quite fossiliferous. It forms the upper member of the Drum group and is overlain by the Ochelata formation.

The Ochelata formation is essentially made up of shales, containing some sandstone and limestone members. Of the latter, the most prominent in this county is the Avant limestone, which, here, attains a thickness usually of 10 feet or less. It is a gray ferruginous limestone which weathers to a dark brown to reddish brown color.

Elgin Sandstone

The Elgin sandstone is a brownish gray, heavy bedded sandstone of relatively even texture. At some places there are shale partings. It resists erosion fairly well and its upper surface forms an excellent stratigraphic boundary. Its thickness ranges in this country from 50 to 80 feet. It immediately overlies the Nelagony formation and is overlain by the Pawhuska formation.

The Pawhuska formation consists chiefly of red and gray shales, interbedded with gray sandstones and capped by one or two limestone beds known as the Pawhuska limestone. The sandstones range in thickness up to 20 feet and the limestones are from 2 to 5 feet thick. The whole formation in Creek County varies from 140 to 160 feet in thickness.

Two groups mentioned by Gould in Bulletin No. 35 should be noted here. The Copan, so named by Chern in 1910, includes the lower portion of the Ochelata formation, the Dewey limestone, and the Nellie Bly formation. The Bristow, named by Fath in 1925, includes the Nelagony formation and the upper part of the Ochelata formation down to the base of the Tiger Creek sandstone, which latter, with the Avant limestone, form a part of the Ocelata formation.

Subsurface Formations

From the east side of the county the sediments dip westward at about 50 feet per mile and the elevation of the surface tends to rise. All formations, therefore, except the Pawhuska, are partly exposed and partly covered. All exposed rocks have been grouped with the surface formations and unexposed rocks thrown into the subsurface group. The latter are described briefly in descending order as follows:

The Broken Arrow formation lies below the Dawson coal above the Fort Scott limestone. The equivalents of this formation to the north named in descending order are Labette shale, Pawnee limestone, Bandera shale, Altamont limestone and Nowata shale. In its type locality the Broken Arrow has a thickness of 350 to 500 feet but thickens westward and southward. In Creek County, the thickness is 800 feet or more, except in the extreme northeast corner of the county, where it has a thickness of 400 to 500 feet. This formation is made up largely of shales, with a few interbedded sandstones and limestones in the upper portion. The Cleveland sand is a part of this formation.

The Fort Scott limestone, according to Fath's bulletin on the Bristow quadrangle, comprises a zone of limestone with interbedded shales making up a thickness of 100 to 200 feet. This zone is capped by the "Big Lime" of the drillers and includes at its base the Oswego limestone. The Wheeler sand is correlated with the latter.

Cherokee Formation

The Cherokee shale lies immediately under the Fort Scott limestone. This portion of the section is made up chiefly of shale with a few thin interbedded limestones and thicker bodies of sandstone. The Cherokee averages about 900 feet in thickness in this county, though it thins to 600 feet or less over the Cushing group of structures and is elsewhere found as thick as 1,100 feet. The shales vary in color from light to dark gray. Within the Cherokee are found the following oil producing sands, arranged in descending order: Prue, Red Fork, Bartlesville (or Glenn), Tucker (or Taneha) and Dutcher.

The Boone formation ("Mississippi lime") underlies the Cherokee shale in Creek County. A stratigraphic hiatus exists both above and below this formation. It is made up of a series of limestone beds sometimes separated by shale partings. The Boone ranges in thickness from a little over 200 feet up to 450 feet. According to Auring, Clark and Trager[1] the "Mississippi limestone" is divisible lithologically into three members. The upper member is not found much south of the north line of this county. It is made up of a gray limestone and chert. The middle member is a black limestone and is found throughout the county. The lower member is a gray limestone and is absent in the Okmulgee district.

The Chattanooga shale underlies the Boone throughout the county and ranges in thickness from 5 to 70 feet in the logs used for the cross sections shown in this chapter. (See Plates 1 and 2). There is a hiatus both above and below this formation. This shale is black and slaty and of fairly uniform texture.

The Misener sand, which is correlated with the Sylamore sandstone of eastern Oklahoma and Arkansas, is composed of thin, irregular patches of windblown sand believed by White and others to have been derived from the erosion of older sediments at the close of Devonian time. It is, therefore, related rather to the

(Continued on Page 74)

AUTHORS NOTED GEOLOGISTS

J. W. Merritt, the senior author, has his Ph.D. degree from Wisconsin University, where he specialized in mining geology. He taught for one year in the geological department of Northwestern University and for four years in the department of geology of Dartmouth College. He began oil geology work for Roxana in 1916 and, after working for one or two other companies in oil and coal exploration, he opened a consulting geology office at 601 Atlas Building, Tulsa, in 1922, and is still in this location and business. The Roland Oil Co.'s No. 1 Aleck, Bristow, completed for 20,000 bb'ls., was located on Mr. Merritt's geology.

O. G. McDonald graduated at the University of California after which he continued his studies toward his doctor's degree. Following this he did geological field work in California, Colorado and Wyoming and general Mid-Continent area. He is now employed by Mr. Merritt in his consulting office.

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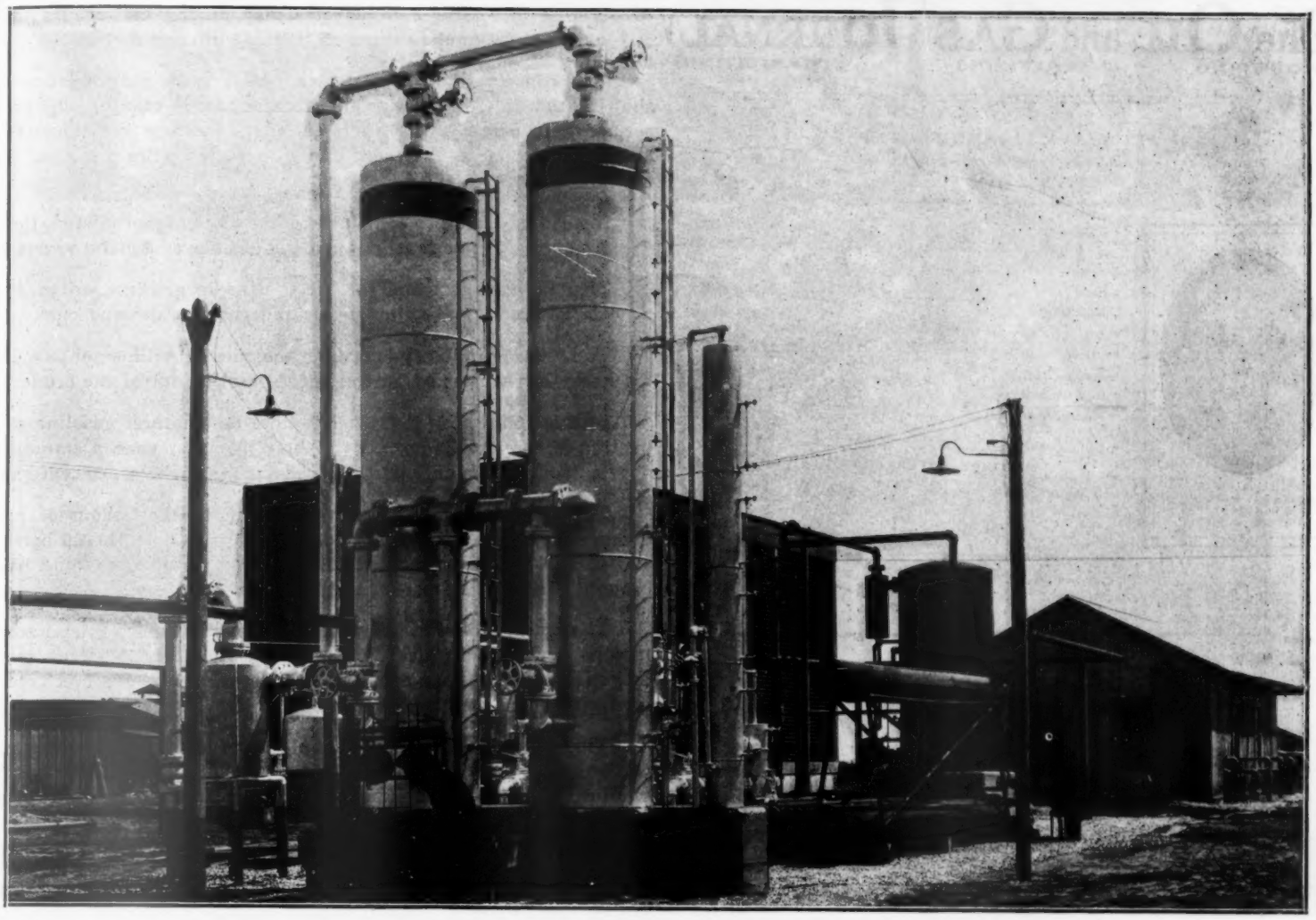
[1]Aurin, F. C., Clark, C. C., and Trager, E. A. Notes on the subsurface, pre-Pennsylvanian Stratigraphy of the Northern Mid-Continent Oil Fields. Bull. Amer. Assoc. Pet. Geol. vol. 5, No. 2, pp. 121-153 (1921.)



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JUST ONE THING AFTER ANOTHER

In the oil industry it is just one thing after another.

No sooner had the overproduction of 1923 and 1924 become history than the increasing efficiency of the refinery and natural gasoline branches compelled attention. And, as in the case of the production of crude in those years, this increase in manufacturing efficiency has been greatly underestimated.

Nor is that all. The automobile manufacturers are at last getting ready to introduce their long-promised high compression cars which it is claimed will increase mileage per gallon and affect gasoline requirements.

Two manufacturers have already announced high compression cars for this year and, if they prove popular, 1927 may see many rivals. It is reported from Chicago that fleets of taxicabs, buses and trucks are being converted to high compression by the simple cutting down of the cylinder head, thus reducing the size of the compression chamber, for the purpose of saving gasoline, made possible by the marketing of gasoline suitable for high compression motors.

At the outset, of course, the use of such cars will be chiefly in the centers of population where suitable gasoline is obtainable and where gasoline consumption is highest because of traffic and stops. But, however gradual the introduction of the new cars, they constitute a factor to be considered very seriously in all calculations of future gasoline requirements.

This is the more essential just now in view of the showing for the first four months of this year regarding the gain in refining efficiency and its effects upon crude demand and gasoline supply, analyzed elsewhere in this issue of The Oil and Gas Journal.

With crude production substantially less and gasoline consumption increasing steadily, gasoline prices at the refinery should be satisfactory but they are not.

In the Annual Number of The Oil and Gas Journal it was pointed out that increasing refining efficiency during 1926 would take care of one-third of the estimated increase in consumption.

How conservative that statement was may be judged from the showing that in the first four months this gain in refining efficiency actually took care of over 50 per cent of the increase in the domestic consumption and 38.9 per cent of the increase in the combined domestic and export demand.

Instead of the 2 per cent increase in efficiency predicted, there was a gain of 3½ per cent in April this year over April a year ago.

That is what accounts for the decline in gasoline prices at a time when crude production is less and gasoline demand more.

The refining industry is making too much gasoline, not so much by increasing runs as by getting more gasoline out of the crude.

In this connection it is well to note that natural gasoline production is running 25 per cent greater than last year, a statistical development that is only partially reflected in this 3½ per cent gain.

The refiners have not been unmindful of the lessons of past overproduction so far as runs go. The additional 11,869,000 barrels run in the first four months of this year would not alone have brought the gasoline market to its present condition.

The real trouble lies in the fact that in addition to this increase in runs the refiners added the equivalent of 14,156,000 barrels more by getting through greater manufacturing efficiency that much more gasoline out of their raw material.

This was a condition that could not have been foreseen and for which no one can be blamed. It was wholly natural that everyone in the refining branch should seek the greatest possible recovery, the more so as runs were not deemed excessive.

An estimate of 2 per cent greater recovery than last year appeared sufficient to allow for the improvements in manufacturing but as the figures for the first four months show this was away below the actual gain.

The best that can be said is that the oil industry is again the victim of its own efficiency.

Refiners in the future must cease basing their production on crude run to stills and consider it from the standpoint of gasoline obtained.

When increased manufacturing efficiency reaches a point where it means in effect that, as has aptly been said in an article in this issue of The Oil and Gas Journal, "the refiners are drilling more wells than the producers," adding the gasoline equivalent of more barrels than were added to crude runs, the industry is given a new problem to ponder.

When that increase accounts for 75 per cent of the increase in gasoline stock in the first four months of this year, or all of the increase in gasoline stock from May, 1925, to May, 1926, its importance is emphasized.

It is pointed out that cracking efficiency and natural gasoline production are far from their limits. Improved processes are being installed and it would be rash to estimate the gain in efficiency that lies ahead, particularly after the demonstration of the first four months of this year.

The situation impresses anew the vital importance of constant study of the statistical and technological developments in the industry so fully reported and discussed in The Oil and Gas Journal from week to week.

The oil man, in any branch, who concentrates exclusively on his own immediate affairs and overlooks the trends and tendencies in the industry at large, is apt to find himself in much the same predicament as the makers of gasoline who find their market slipping because of their own efficiency.

XUM

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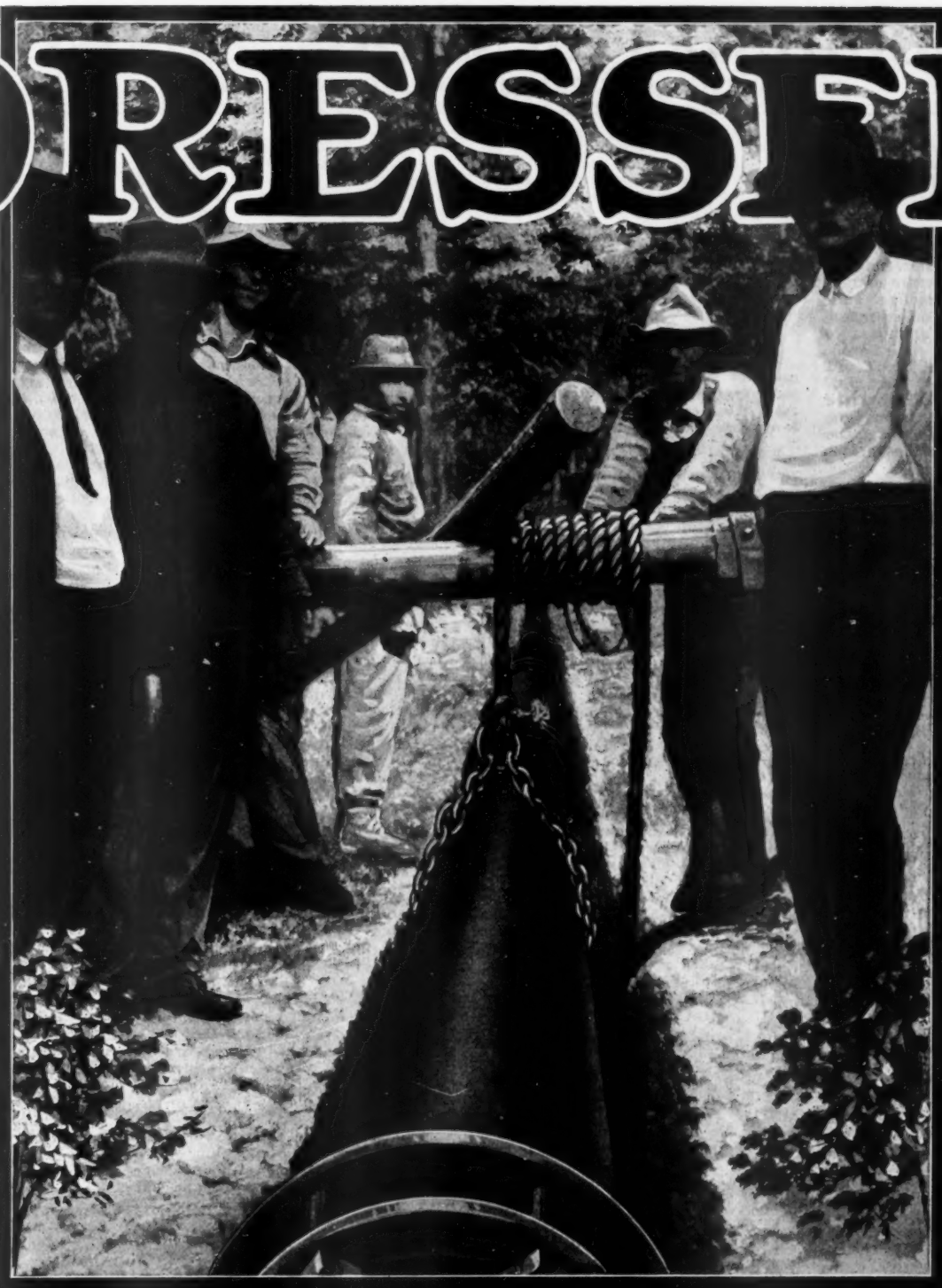

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Technical Questions Answered

BY CHARLES K. FRANCIS, PH.D., TECHNICAL EDITOR

The Question and Answer Department of The Oil and Gas Journal is devoted to the manufacturing branches of the oil industry.

Those connected with the refining of crude petroleum, the manufacture of natural gasoline and closely allied industries are invited to submit their problems to Dr. C. K. Francis, technical editor. The department was created for the purpose of aiding managers, superintendents, engineers, chemists and all those engaged in the various phases of plant operation.

Those connected with the marketing departments and others interested in the utilization of petroleum prodin the utilization of petroleum products are also invited to take advantage of the new service.

Questions should be submitted in as much detail as possible so as to assure a satisfactory answer.

BLENDING FOR ENDPOINT

We have a tank of 60 gravity 430 endpoint gasoline and a tank of 58.5 gravity 442 endpoint. What method would be used in blending these two tanks to a 437 endpoint product?—C. T. W.

The blending off of endpoint is not a matter for calculation in a similar way to that employed for mixing on a gravity basis. The persistence of the heavier ends seems to be an important factor. If the quantity after the 90 per cent point is oily and the endpoint is not sharp, the presence of sufficient heavy oil is indicated to prevent satisfactory blending. However, if the endpoint determination indicates but little more than a trace of a heavy fraction it is possible to blend off a high endpoint. Blending of this kind is done in some refineries but local conditions and the experience with the special stocks serve as guides in estimating the proportions. No rule can be set down other than that indicated from day to day. It is the practice to estimate the quantities to be used and then make a distillation of the trial blends.

In this particular example, it is to be noted that you have a heavy end only 5 degrees too high, also the gravities are high and this is favorable for good blending, so trial batches of about 500 c.c. based on 50 per cent and 75 per cent of the 60 gravity stock should give you sufficient data from the 100 c.c. distillations to determine the proper quantities to be used from the two tanks.

CARBON BLACK AND LAMPBLACK

The question has been raised that carbon black and lampblack are not the same kind of substance and cannot be used for the same purposes, so it would be appreciated if you will give us the information to settle the dispute.—T. R. W.

Lampblack and carbon black are essentially the same form of carbon but have different physical characteristics and the two blacks have many quite different applications in the arts.

Carbon black is a fluffy, finely divided black pigment produced by burning natural gas with an insufficient supply of air against a cool surface. Lampblack is usually made by burning a heavy oil, tar, etc., in large settling chambers with an insufficient supply of air. This produces a soot which is made up of particles not so finely divided as that formed as carbon black.

The color of carbon black is a deep velvety black while the lampblack has a grayish hue. This difference in color tone seems to be due to the differences in the size of the particles, and the finer division of the carbon black particles give it greater covering power and tinting strength.

Carbon black is considered superior to lampblack for use in the finest grades of ink required in the present day high-speed printing presses.

TOXICITY OF HYDROGEN SULPHIDE

What quantity of hydrogen sulphide is considered dangerous and what are the main symptoms of poisoning from this gas? What can be done in case a man is overcome by hydrogen sulphide?—R. C.

Hydrogen sulphide is known to be a very dangerous poison and may prove fatal if the air breathed contains more than a trace. Irritation and inflammation of the eyes, throat and lungs have resulted from breathing as little as 0.005 per cent, while a concentration of 0.06 per cent is considered high and dangerous. The first objectionable symptoms include slight nausea, watering of the eyes, irritation of the throat and increased respiration. Most of the fatal cases have resulted from continued breathing of the air which was contaminated with the hydrogen sulphide, as when working in a tank or in a condenser box and away from a strong current of pure air. Exposure for five minutes may prove fatal.

A very striking property of this kind of poisoning is the rapidity with which the virulent condition advances from irritation through depression and stupor into unconsciousness. This fact suggests that treatment of a person showing signs of hydrogen sulphide poisoning should be prompt as a few minutes' delay may prove fatal. Fresh air is necessary and artificial respiration should be given while waiting for the arrival of a physician.

OIL USED IN THE ARTIFICIAL GAS INDUSTRY

What is the quantity of oil used for making artificial gas?—E. D. H.

According to the United States Census over 20,000,000 bbls. of oil are consumed each year in the manufacture of gas. This is for making oil gas and for carbureting but does not include oil used as fuel.

FLOTATION OILS AND THEIR USE

What are the oils known as flotation oils and where are they used?—D. E. W.

Flotation is a process used in the mining industry for concentrating certain ores with the aid of oil. The fundamental idea may be illustrated by reference to the bubble which you have noticed on an oiled dirt road after a light shower of rain, where you saw a film of dirt floating on the surface of the bubble of oil. The fact when applied to the mining industry became worth a lot of money and the courts have heard a number of suits about it. In the presence of the oil the heavier particles of ore are made to float and the lighter waste material to sink. The process is especially applicable to the sulphide ores of lead, zinc, silver and copper.

Mexican crude, crude oil, gas oil, low grade lubricating oil, fuel oil, vegetable and animal oils have been used.

There are two types of the flotation process known as the film and the froth methods. In the film method the floating material particles are sustained on the surface film of the liquid. The froth method requires that the mineral be gathered and floated on the surface of bubbles of air or gas. The air may be driven into the liquid, mixture of ore, water and oil, or a gas may be generated within the mass. Maximum efficiency depends upon the number of bubbles the particles come in contact with before they become entangled in the froth on the surface and finally removed by the machine.

The best oil is the one which will produce the most froth and prove the best collector. The oil must have affinity for the material. The tendency to emulsify is believed to be a desirable property and the oil must penetrate well, so that the mineral will be wetted by the oil and not by the water. The high sulphur content of the Mexican crude has made it a good flotation oil. Crudes and other petroleum oils are sometimes improved with organic acids such as oleic and stearic. Additions of pine oil and creosote oil are also effective.

INITIAL BOILING POINT OF GASOLINE

I have some difficulty in obtaining good checks on the initial boiling point of our gasoline and wonder if this is due to the product or to the way the test is being made?—R. S. D.

There should be no difficulty in obtaining checks on the initial boiling point when the tests are made in the same laboratory but when made under varied conditions some trouble is often met with. The methods committee of the American Society for Testing Materials, Committee D-2, has recognized this condition and has made a recommendation, which may be of benefit, including a revision of the distillation test. This is as follows:

"The distillation thermometer shall be read two minutes after heat is applied and the indication recorded as the "correction temperature. This figure is of significance only in cases when there is a question as to the accuracy of the initial boiling point, as subsequently determined.

"The initial boiling point is one of the observations which . . . . is very difficult to check, especially when duplicate tests are made at different room temperatures, and it has not been found practical to devise an accurate method of correcting for this unavoidable variation in operating conditions. The initial boiling point may be corrected as follows: If the 'correction temperature' is below 70 degrees Fahrenheit or above 80 degrees Fahrenheit, the observed initial boiling point (if it is below 150 degrees Fahrenheit) may be considered incorrect by an amount not less than one-third the difference between the 'correction temperature' and 75 degrees Fahrenheit. In case there is a dispute the following formula may be used:

$$R = O - \frac{\text{Cor Temp} - 75}{3}$$

R is the revised initial and O the observed initial boiling point, and Cor. Temp. is the correction temperature. If all the revised figures fall within the specification limits, the gasoline in question shall be considered as passing; otherwise arrangements shall if possible be made to conduct a distillation test with the room temperature maintained between the limits of 70 and 80 degrees Fahrenheit, inclusive."

COMPRESSION RATIO

What is meant by the compression ratio as applied to an automobile?—T. W. F.

This is an indication of the power which may be developed by the pressure of an explosive mixture of gasoline and air within the cylinders of the automobile engine and is found by measuring the space in the cylinder when the piston is at the two extremes of the stroke. If the volume of the free space in the cylinder is 200 inches at the end of the down stroke and 40 inches when it is all the way up, the compression ratio will be expressed at 5 to 1. The higher the ratio the greater the power, but it is limited by the character of the fuel The common compression ratio of most American cars is close to 4.5 to 1.

CATALYSIS

Please give me an explanation of catalysis as applied to the petroleum industry? —E. A.

There are numerous definitions for catalysis, many of them so involved that the exact meaning cannot be seen. A catalyst is a medium which acts simply by its presence, so as to accelerate a reaction. It appears to remain unchanged after the reaction has been completed. Any chemical process which is brought about or hastened by an outside force or material may be described as one in which catalysis is applied. Heat, a hot surface, steam and numerous liquids and solids (principally solids) are used as catalysts.

Some processes for cracking and treating make use of catalysis. The best known substances used in this way are iron oxide, aluminum chloride and fullers earth. The material may be used in the liquid or vapor phase. On theoretical grounds the catalyst should not have to be increased after the process has once started. The original charge should last forever, but under many conditions where it is used material of this class must be renewed and recovered. The recovery of the catalyst is often expensive. There are several substances in petroleum which retard its action, usually called poisoners. The meritorious processes of this kind are protected by patents.

SHALE OIL

What is the yield of oil from Colorado shale, and what is a reasonable refinery yield to be expected from the crude shale oil?—S. P.

The quantity of crude obtained from shale fluctuates over a very wide range. The Colorado School of Mines reports that this yield varies from 0.3 to 90 gallons per ton of shale heated. The gravity of the crude shale oil was found to be from 17.5 A. P. I. to 38.5 A. P. I. This variable shows what may be expected from a refinery run of the oil. An average yield, compiled from a number of different oils, may be represented by the following:

	Per Cent
Gasoline	10
Gas oil	30
Kerosene	5
Lubricating oil	34
Wax	2
Asphalt	3

The products have a bad odor due to the high nitrogen and sulphur content.

CLASSIFICATION OF FULLERS EARTH

How is fullers earth graded, by physical tests or chemical analysis? Please describe the test.—G. N. E.

The petroleum industry does not depend upon a chemical analysis for grading fullers earth. It is purchased on the basis of fineness. There are three grades in common use at this time; the 30-60, the 60-90 and the 200 fine. Standard screens are used for testing and a representative analysis of a 30-60 fullers earth is as follows:

Screen Test	Per Cent
Coarser than 20	0.11
20-30	2.26
30-40	51.59
40-50	30.65
50-60	2.79
60-80	9.46
80-100	0.56
Finer than 100	1.05

The quantity of water present is usually about 7 to 10 per cent. The value of fullers earth is based on its color removing power and this is determined by actual tests with known oils.

Earth Temperature As Drilling Guide

Plottings and Curves Based on Disclosures in Deep Wells, Prepared by Geophysicist, Show Interesting Conclusions

By Charles E. Kern
Washington Bureau, The Oil and Gas Journal

WASHINGTON, D. C., June 26.—One of the interesting methods being developed by geologists for the purpose of locating oil structures relates to earth temperatures. It is only a few years since temperatures at many points from the surface to the bottom of the oil well have been taken and the lessons taught by these temperatures are now being studied with great care with the thought that the reading of the thermometer in known oil and gas wells will have an important bearing in the selection of sites for additional drilling. It seems to have been demonstrated very fully that temperatures in an oil dome are considered greater than they will be found beyond the dome or even on the slope of an anticline.

Two of the wells that have given important data on this subject have had their temperatures plotted right down almost to the bottom and as they are among the deepest oil wells of the world the information obtained is regarded as of great importance.

One of these deep wells is known as the Lake well, Fairmont, W. Va., the drilling of which was begun August 5, 1916, and concluded June 18, 1919, by the Hope Natural Gas Co. of Pittsburgh, Pa., and it reached a total depth of 7,579 feet. At that time the Lake well was the deepest well in the world, surpassing the other deep wells drilled by the Hope company at Clarksburg, W. Va.

Since the drilling of the Lake well it has been surpassed by the gas well at Ligonier, Pa., which was completed August 6, 1925, at a depth of 7,756 feet. Second place in point of depth is held by the Miley Oil Co.'s No. 6 at Athens, Calif., which reached a depth of 7,591 feet, now producing oil.

These temperature plottings and curves were prepared by C. E. Van Orstrand, geophysicist, United States Geological Survey, while the well was being drilled at Fairmont, at intervals when the drilling was discontinued for the purpose of making repairs or incident to other delays. By proceeding in this way it was possible to make the test when the rocks were in a state of temperature equilibrium, the heat indicative to drilling, etc., practically having been dissipated in the meantime. The curve showing temperatures at the Lake well, therefore, not only represents the temperatures to the greatest depth that has ever been obtained but the degree of accuracy obtained is rather exceptional.

Taking the Temperature

Up to a depth of 3,000 feet the observations were made with an electrical resistance thermometer and from 3,000 feet to the maximum depth at which the temperatures were taken of 7,500 feet, the observations were made by attaching maximum thermometers to a bailer. at different intervals. There were frequent duplications of these observations so that there can be little doubt as to the final accuracy of the results.

The Lake well being the deepest in the world at that time, the information was desired for general geological knowledge and it was for that purpose that the record was obtained.

A record in a deep well of this kind is of course of fundamental interest to the geologist who is interested in pure science only. Such a record may be of very great value to oil companies as in case oil at great depths is discovered the temperature records in these deep wells may give some clue as to the best locations for future drilling. This has been demonstrated to a very large extent in wells of less depth in California and Wyoming, but no conclusion, of course, can be drawn in regard to these deep wells at present because of the limited number available on a structure.

As an illustration, suppose there had been drilling another deep well to a depth of 4,000 or 5,000 feet and the temperature curve in the two wells had been compared. In case the second curve showed a much lower temperature than the first this might be an indication that the second well was located nearer edge-water than the first one or lower down on the structure. Extraordinary low temperatures would not be met with on the top of the dome. This at least would be profitable. Sufficient tests have not been made to determine the full value of this information.

Prof. I. C. White, state geologist of West Virginia, has already compared Mr. Van Orstrand's observations at Volcano, W. Va., with his observations at the Lake and Gulf wells and concludes that the earth temperatures under well-developed anticlinal axes are a few degrees higher at the same depths than where the strata are not arched or otherwise disturbed to any marked extent.

Higher Where Is Oil?

There is no question but where there is oil the temperatures are generally higher over the oil bed. To what extent that is true the geophysicist does not know at present. There are good theoretical reasons for believing that this difference actually exists.

In a general way in the first half of the well from the surface the temperature increased roughly at the rate of 1 degree Fahrenheit in 80 feet, while from 5,000 feet below the surface to the bottom of the well the temperature increases more rapidly and is at the rate of about 1 degree in 70 feet. The temperature in the Lake well increased from 53.7 degrees at 100 feet from the surface to 168.6 degrees at a depth of 7,500 feet.

The second deepest well in West Virginia known as the Goff well and now the fourth deepest in the world, went to a depth of 7,386 feet. The Goff well was completed March 4, 1918.

The temperature of the Goff well at a depth of 100 fee from the surface was found to be 55.6 degrees and at a depth of 7,310 feet the temperature was 159.3 degrees. The temperature increased at the rate of about 1 degree in 95 feet down to a depth of 4,000 feet and from 4,000 feet to 7,310 feet the rate of temperature increase gradually diminished so that it recorded 1 degree in 95 feet to 1 degree in 75 feet.

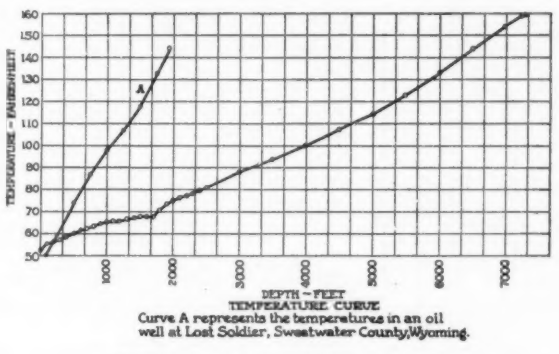
In the depth temperature curve shown in the illustration of the Goff well, the depression of the curve at a depth of about 1,500 feet is due to the small flow of gas. The points at which gas flows into a well are very easily determined from the depth temperature curves as even a small flow of gas produces a rather marked depression. This is easily proven by placing a thermometer over a gas pipe where the leak from a pin hole lowers the temperature below that of the atmosphere.

Lost Soldier Well

On the Goff chart the curve designated A represents the temperature in a deep well at Lost Soldier, Wyo., and serves to emphasize the marked difference in temperature which is found at the same depth in different localities. Lost Soldier well temperature at the depth of 100 feet is 50.3 degrees Fahrenheit at 100 feet below the surface and this temperature gradually increases to 144.2 degrees at a depth of 1,925 feet. In other words, the same temperature as the above could be reached in the Goff well at a depth of 6,400 feet and in the Lake well at a depth of about 6,000 feet.

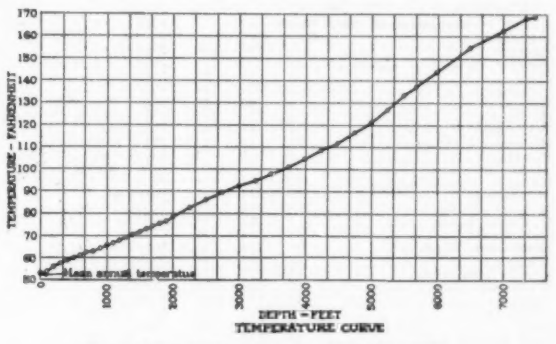
In view of these ascertained facts it seems probable that the experienced geologist in possession of depth temperatures in a given field might be able to approximate fairly the relations of the wells to the top of the oil dome. The method is very far from being worked in any automatic manner but must be assisted by intelligent interpretation of conditions by the trained geologist. The tem-

(Continued on Page 142)



TEMPERATURE CURVE
Curve A represents the temperatures in an oil well at Lost Soldier, Sweetwater County, Wyoming.

Hope Natural Gas Co.'s M. O. Goff, near Clarksburg, W. Va. Total depth, 7,386 feet.



TEMPERATURE CURVE

Hope Natural Gas Co.'s I. H. Lake, near Fairmont, W. Va. Total depth, 7,579 feet.

GAS LESSEE'S RIGHT TO ALLOWANCE FOR DISCOVERY REVALUATION UPHELD

By Charles E. Kern
Washington Bureau, The Oil and Gas Journal

WASHINGTON, D. C., June 26.—The natural gas industry is greatly interested in the ruling by A. W. Gregg, Solicitor of Internal Revenue, that a gas lessee of property on which there exists a contemporaneous oil lease is entitled to discovery revaluation for depletion purposes as to all wells discovered on its leasehold tract and taken over from the oil lessee on a lease option as told briefly in a previous dispatch to The Oil and Gas Journal. This ruling was made in a construction of Section 214 (a) of the Revenue Acts of 1918 and 1921. The income tax unit had declined to extend the advantage of the discovery clause to gas wells on the ground that the law gave this right to the taxpayer who makes discovery. This ruling in effect holds that the gas lessee is made a principal in that discovery by the law itself. This ruling applies to all tax returns prior to the 1926 law and in view of the changed form of the latter law has no application to it.

The opinion holds that this policy should obtain whether payment therefor was made by the immediate reimbursement of the oil lessee or for his development costs or whether this reimbursement was consummated by payment under the gas contract.

Text of Opinion

The text of Mr. Gregg's opinion follows:

The questions presented deal with the rights of a gas lessee of property where there exists a contemporaneous oil lease to claim depletion in the discovery revaluation of gas wells discovered by the oil lessee and taken over by the gas lessee under his lease. The two methods of acquisition employed and the details of the problem will appear more fully from the following resume of the facts:

The X Reservation was purchased by the United States Government for the Y Indian tribe out of funds belonging to them. The surface land has been divided in severalty among the members of the tribe, but the mineral rights is still held by the United States Government as trustee for the benefit of the members of the tribe as a whole.

The United States Government in leasing the mineral right has seen fit to grant two different types of leases for the same property to different lessees. The types of leases granted are one for the oil rights and one for the gas rights. The regulations covering these types of leases provide that:

"6. The lessee accepts this lease with the understanding that the lands covered thereby may be leased to some other party who shall have the exclusive right to all gas except as herein provided.

Respective Rights

"7. If the oil lessee shall drill a gas well he shall, without removing from the well any of the casing or other equipment, immediately shut in the well and notify the gas lessee and the superintendent. In the event the gas lessee does not within 30 days after receiving notice elect to take over such well and reimburse the oil lessee the cost of drilling the same, including all damages paid, in addition to the cost in place of casing,

(Continued on Page 142)

Big Increase in Drilling in June

More Wells Completed Than in May, But Average Initial Production Falls Off. Texas Leads States in Field Work

SUMMARY OF ALL FIELDS

Summary of Wells Completed

Field—	Comp.	Prod.	Dry	Gas
Eastern	426	1,763	41	55
Central Ohio	41	172	11	27
Lima	61	708	6	2
Indiana	16	247	8	1
Illinois	25	841	8	0
Kentucky	148	2,506	32	6
Tennessee	1	0	1	0
Kansas	195	16,129	51	6
Oklahoma	490	67,845	142	40
N. Cent. Texas	563	61,951	216	11
E. Cent. Texas	2	1,775	0	0
Gulf Coast	106	23,014	41	2
Southwest Texas	43	7,221	3	11
Arkansas	95	6,038	16	6
N. Louisiana	96	5,962	30	12
Wyoming	37	6,636	6	1
Montana	47	4,839	21	3
Colorado	13	690	6	3
New Mexico	12	195	7	0
Total June	2,417	208,532	646	186
Total May	2,295	231,976	662	174
Difference	122	23,444	16	12

Summary of New Work

Field—	Rigs	Drg.	Ttl.
Eastern	130	503	633
Central Ohio	45	97	142
Lima	2	73	75
Indiana	3	37	40
Illinois	4	44	48
Kentucky	12	172	184
Tennessee	1	19	20
Mississippi	5	9	14
Florida	0	1	1
Alabama	6	4	4
Kansas	112	364	476
Oklahoma	233	1,214	1,447
N. Cent. Texas	314	1,091	1,405
E. Cent. Texas	1	33	34
Gulf Coast	49	204	253
Southwest Texas	41	114	155
Arkansas	61	104	165
North Louisiana	50	129	179
Wyoming	37	348	385
Montana	17	148	165
Colorado	14	101	115
Utah	3	32	35
New Mexico	13	132	145
Total June	1,147	4,973	6,120
Total May	1,125	4,595	5,720
Difference	22	378	400

OKLAHOMA FIELDS

Summary of Wells Completed

County—	Comp.	Prod.	Dry	Gas
Osage	94	13,146	18	5
Tulsa	23	962	13	0
Okmulgee	52	2,623	24	4
Kay	15	3,341	1	3
Pawnee	14	972	3	2
Garfield	29	20,772	1	0
Payne	16	2,590	2	2
Creek	57	3,851	13	1
Lincoln	21	3,673	6	1
Okfuskee	25	2,154	13	4
Muskogee & Waggoner	16	73	9	2
Seminole	20	8,109	2	0
Hughes	11	808	6	0
Grady	12	92	3	6
Stephens and Cotton	21	832	10	3
Pontotoc and Garvin	11	153	6	1
Carter	20	2,727	1	5
Miscellaneous	33	967	11	1
Total June	490	67,845	142	40
Total May	407	57,617	135	39
Difference	83	10,228	7	1

Summary of Rigs and Wells Drilling

County—	Rigs	Drlg.	Ttl.
Osage	28	91	119
Tulsa	1	26	27
Okmulgee	19	76	95
Seminole	16	109	125
Okfuskee	10	55	65
Hughes	6	62	68
Muskogee and Waggoner	5	30	35
Creek	38	124	162
Pawnee	10	50	60
Kay	19	86	105
Payne	6	51	57
Lincoln	6	46	52
Noble		23	23
Grant	2	13	15
Garfield	13	118	131
Grady	8	23	31
Comanche	1	20	21
Pontotoc and Garvin	5	13	18
Stephens and Cotton	8	36	44
Jefferson	3	13	16
Carter	15	74	89
Miscellaneous	14	75	89
Total June	233	1,214	1,447
Total May	248	1,227	1,475
Difference	15	13	28

KANSAS FIELDS

Summary of Wells Completed

County—	Comp.	Prod.	Dry	Gas
Anderson	17	1,265	1	0
Butler	32	1,095	13	1
Chautauqua and Elk	10	297	1	1
Cowley	12	655	2	0
Greenwood	69	9,865	11	0
Lyon	19	1,035	9	0
Miscellaneous	36	1,917	14	4
Total June	195	16,129	51	6
Total May	165	16,230	57	4
Difference	30	101	6	2

Summary of Rigs and Wells Drilling

County—	Rigs	Drlg.	Ttl.
Butler	11	50	61
Chase	3	5	8
Chautauqua and Elk	3	25	28
Coffey	2	6	8
Cowley	8	25	33
Greenwood	49	80	129
Kingman	1	13	14
Lyon	12	29	41
Montgomery	..	12	12
Rice	4	10	14
Sumner	1	14	15
Woodson	4	8	12
Miscellaneous	14	87	101
Total June	112	364	476
Total May	90	381	471
Difference	22	17	5

NORTH CENTRAL TEXAS

Summary of Wells Completed

County—	Comp.	Prod.	Dry	Gas
Hutchinson	49	26,730	1	2
Carson	5	552	1	0
Gray	3	4,270	0	0
Wheeler	3	620	1	0
Wichita	50	482	22	0
Wilbarger	48	4,686	8	0
Baylor	3	10	2	0
Hall	1	0	1	0
Archer	115	2,614	54	0
Montague	21	1,462	2	0
Jack	7	0	7	0
Cooke	1	0	1	0
Young	63	1,805	33	0
Throckmorton	2	0	2	0
Shackelford	23	9,347	8	0
Stephens	20	915	6	2
Palo Pinto	7	0	5	2
Eastland	10	125	6	2
Callahan	12	850	8	0
Mitchell	3	162	0	0
Howard	1	40	0	0
Ward	1	0	1	0
Loving	1	0	1	0
Coleman	11	387	5	2
Brown	74	3,308	30	0
Reagan	10	2,445	3	0
Upton	7	242	3	0
Crockett	5	869	0	0
Pecos	1	0	1	0
Val Verde	2	0	2	0
Clay	4	40	2	0
Total June	563	61,951	216	11
Total May	630	65,527	272	5
Difference	67	3,616	56	2

The decrease of 67 in the number of completions during June is entirely accounted for by the fact that only four weeks were included in this report, whereas five weeks were included in the May totals.

Summary of Wells Drilling

County—	Rigs	Drg.	S.D.	Ttl.
Wichita	4	37	14	55
Wilbarger	21	71	21	113
Archer	8	45	8	61
Young	7	29	10	46
Stephens	6	31	16	53
Eastland	12	25	4	41
Brown	15	81	21	117
Coleman	5	31	10	46
Callahan	3	23	3	29
Mitchell	2	13	1	16
Shackelford	11	45	7	63
Montague	10	24	1	35
Throckmorton	1	15	4	20
Upton	7	20	3	30
Crane	2	7	2	11
Crockett	2	18	1	21
Reagan	0	28	2	30
Hutchinson	146	199	24	369
Carson	5	22	3	30
Gray	18	3	1	22
Miscellaneous Panhandle	15	10	8	33
Other miscellaneous	14	91	59	164
Total June	314	868	223	1,405
Total May	265	725	204	1,194
Difference	49	143	19	211

EAST CENTRAL TEXAS

Summary of Field Operations

District—	Comp.	Prod.	Dry	Gas	Rigs	Drg.	Ttl.
Navarro	2	1,775	0	0	0	5	5
Limestone	0	0	0	0	1	8	9
Miscellaneous	0	0	0	0	0	20	20
Total June	2	1,775	0	0	1	33	34
Total May	14	375	10	1	2	29	31
Difference	12	1,400	10	1	1	4	3

ARKANSAS

Summary of Field Operations

County—	Comp.	Prod.	Dry	Gas	Rigs	Drg.	Ttl.
Union	76	5,761	9	2	45	71	116
Ouachita	10	85	3	3	7	18	25
Columbia	4	42	1	0	2	3	5
Nevada	4	0	2	1	2	4	6
Miscellaneous	2	150	1	0	5	8	13
Total June	95	6,038	16	6	61	104	165
Total May	133	13,707	13	6	36	128	164
Difference	38	7,669	3	0	25	24	1

LOUISIANA

Summary of Field Operations

Parish—	Comp.	Prod.	Dry	Gas	Rigs	Drg.	Ttl.
Bossier	3	0	2	1	3	6	9
Caddo	25	937	3	2	12	40	52
Caldwell	0	0	0	0	1	4	5
Claiborne	0	0	0	0	0	4	4
DeSoto	3	200	2	0	0	4	4
Grant	6	0	6	0	2	3	5
Monroe district	11	0	2	9	4	15	19
Webster	3	80	1	0	3	8	11
Winn	1	400	0	0	2	4	6
La Salle	41	4,345	11	0	20	35	55
Miscellaneous	3	0	3	0	3	6	9
Total June	96	5,962	30	12	50	129	179
Total May	104	17,569	17	9	47	134	181
Difference	18	11,607	13	3	3	5	2

GULF COAST

Summary of Field Operations

District—	Comp.	Prod.	Dry	Gas	Rigs	Drg.	Ttl.
Boling	16	5,715	7	0	9	13	22
Batson	7	129	0	0	0	3	3
Big Creek	1	75	0	0	0	4	4
Barber Hill	1	0	1	0	1	1	2
Blue Ridge	0	0	0	0	1	3	4
Dayton	0	0	0	0	0	3	3
Edgerly, (La.)	3	325	0	0	1	2	3
Goose Creek	6	1,170	2	0	3	12	15
Humble	3	75	0	0	1	6	7
Hull	13	2,290	3	0	7	19	26
High Island	1	0	1	0	0	5	5
Jennings (La.)	6	260	2	0	0	2	2
Markham	2	0	1	1	0	2	2
Lockport (La.)	2	5,500	0	0	2	6	8
Nash Dome	2	240	1	0	0	4	4
Orange	7	3,090	1	0	0	16	16
Pierce Jnct.	2	500	1	0	2	3	5
Piedras Pintas	2	0	2	0	0	6	6
Spindletop	6	220	3	0	2	9	11
Saratoga	1	100	0	0	0	2	2
Sour Lake	4	1,510	1	0	1	10	11
South Liberty	1	0	1	0	0	3	3
Vinton (La.)	3	1,815	3	0	3	7	10
W. Columbia	1	0	1	0	0	1	1
Miscellaneous	11	0	10	1	16	62	78
Total June	106	23,014	41	2	49	204	253
Total May	102	33,291	41	3	63	209	272
Difference	4	10,277	0	1	14	5	19

SOUTHWEST FIELDS

Summary of Field Operations

District—	Comp.	Prod.	Dry	Gas	Rigs	Drg.	Ttl.
Luling	0	0	0	0	0	5	5
Mirando	33	7,145	1	10	25	49	74
Somerset	2	16	0	0	0	3	3
Rockdale-Minerva	4	55	0	0	1	6	7
Miscellaneous	4	5	2	1	15	51	66
Total June	43	7,221	3	11	41	114	155
Total May	31	6,475	6	7	33	102	135
Difference	12	746	3	4	8	12	20

WYOMING

Summary of Field Operations

District—	Comp.	Prod.	Dry	Gas	Rigs	Drg.	Ttl.
Big Muddy	0	0	0	0	0	4	4
Salt Creek	27	6,456	1	0	20	133	153
Lance Creek	0	0	0	0	0	1	1
Big Horn Basin	2	0	2	0	3	58	61
Lost Soldier and Carbon Co.	3	0	2	1	4	27	31
Rock River Dis.	0	0	0	0	0	15	15
Fremont Co.	0	0	0	0	1	32	33
Osage	2	30	0	0	3	4	7
Natrona County	0	0	0	0	0	9	9
Lincoln and Uintah Counties	2	150	0	0	4	30	34
Baxter Basin	0	0	0	0	0	7	7
Miscellaneous	1	0	1	0	2	28	30
Total June	37	6,636	6	1	37	348	385
Total May	50	4,490	7	0	35	281	316
Difference	13	2,146	1	1	2	67	69

MONTANA

Summary of Field Operations

District—	Comp.	Prod.	Dry	Gas	Rigs	Drg.	Ttl.
Sunburst	44	4,839	18	3	11	62	73
Cat Creek and Miscellaneous	3	0	3	0	6	86	92
Total June	47	4,839	21	3	17	148	165
Total May	24	5,368	2	3	15	134	149
Difference	23	529	19	0	2	14	16

COLORADO

Summary of Field Operations

District—	Comp.	Prod.	Dry	Gas	Rigs	Drg.	Ttl.
Total June	13	690	6	3	14	101	115
Total May	10	4,480	1	0	14	102	116
Difference	3	3,790	5	3	0	1	1

UTAH

Summary of Field Operations

District—	Comp.	Prod.	Dry	Gas	Rigs	Drg.	Ttl.
Total June	0	0	0	0	3	32	35
Total May	0	0	0	0	3	31	34
Difference	0	0	0	0	0	1	1

NEW MEXICO

Summary of Field Operations

District—	Comp.	Prod.	Dry	Gas	Rigs	Drg.	Ttl.
Total June	12	195	7	0	13	132	145
Total May	23	955	11	9	14	130	144
Difference	11	760	4	0	1	2	1

ILLINOIS

Summary of Field Operations

District—	Comp.	Prod.	Dry	Gas	Rigs	Drg.	Ttl.
Clark	3	105	0	0	8	8	
Cumberland	1	5	0	0	0	0	
Crawford	4	29	1	0	5	5	
Lawrence	4	25	1	1	4	5	
Wabash	11	677	4	1	13	14	
Marion	1	0	1	1	4	5	
Coles	0	0	0	0	2	2	
Douglas	0	0	0	0	1	1	
Jasper	1	0	1	0	0	0	
Fayette	0	0	0	1	0	1	
Edwards	0	0	0	0	1	1	
Randolph	0	0	0	0	1	1	
Madison	0	0	0	0	1	1	
McDonough	0	0	0	0	4	4	
Total June	25	841	8	4	44	48	
Total May	29	480	9	6	33	39	
Difference	4	361	1	2	11	9	

INDIANA

Summary of Field Operations

District—	Comp.	Prod.	Dry	Gas	Rigs	Drg.	Ttl.
Wells	1	50	0	0	0	0	0
Jay	1	25	0	0	0	2	2
Adams	3	87	0	0	0	9	9
Huntington	0	0	0	0	0	1	1
Randolph	0	0	0	0	1	0	1
Gibson	2	0	2	0	0	2	2
Pike	3	85	1	0	1	6	7
Sullivan	3	0	2	1	0	1	1
Allen	0	0	0	0	1	3	4
Daviess	0	0	0	0	0	5	5
Knox	1	0	1	0	0	4	4
Jackson	1	0	1	0	0	0	0
Dubois	1	0	1	0	0	0	0
Shelby	0	0	0	0	0	1	1
Vigo	0	0	0	0	0	1	1
Warrick	0	0	0	0	0	1	1
Lagrange	0	0	0	0	0	1	1
Total June	16	247	8	1	3	37	40
Total May	17	203	7	0	5	33	38
Difference	1	44	1	1	2	4	2

LIMA FIELD

Summary of Field Operations

District—	Comp.	Prod.	Dry	Gas	Rigs	Drg.	Ttl.
Wood	10	106	0	0	0	6	6
Hancock	8	97	0	0	0	8	8
Allen	7	180	0	0	0	6	6
Auglaize	3	34	1	0	0	5	5
Sandusky	4	40	0	0	0	2	2
Mercer	7	58	0	0	0	6	6
Seneca	0	0	0	0	0	2	2
Lucas	1	20	0	0	0	2	2
Ottawa	4	31	0	0	0	5	5
Shelby	8	65	3	0	0	6	6
Hardin	2	26	0	0	0	3	3
Darke	3	0	1	2	0	1	1
Paulding	0	0	0	0	0	2	2
Logan	1	6	0	0	0	0	0
Clark	0	0	0	0	0	1	1
Wyandot	0	0	0	0	0	1	1
Michigan	3	45	1	0	0	18	18
Total June	61	708	6	2	2	73	75
Total May	43	814	5	0	10	62	72
Difference	18	106	1	2	8	11	3

CENTRAL OHIO

Summary of Field Operations

District—	Comp.	Prod.	Dry	Gas	Rigs	Drg.	Ttl.
Knox	2	0	1	1	1	8	9
Ashland	5	0	1	4	9	9	18
Medina	2	0	2	0	2	13	15
Lorain	1	0	0	1	0	5	6
Wayne	4	0	1	3	3	12	15
Holmes	7	172	4	0	6	17	23
Athens	2	0	0	2	1	10	11
Coshocton	3	0	0	3	3	5	8
Guernsey	9	0	0	9	19	9	28
Cuyahoga	6	0	1	5	0	8	8
Richland	1	0	1	0	0	1	1
Total June	41	172	11	27	45	97	142
Total May	28	595	5	17	49	67	116
Difference	13	423	6	10	4	30	26

KENTUCKY-TENNESSEE

Summary of Field Operations

District—	Comp.	Prod.	Dry	Gas	Rigs	Drg.	Ttl.
Warren	9	30	2	0	1	10	11
Allen	9	15	3	0	0	14	14
Barren	33	361	9	1	0	40	40
Owensboro	23	257	5	0	0	22	22
Cumberland-Monroe	13	1,404	3	0	3	8	11
Hopkins	1	8	0	0	0	0	0
Simpson	1	2	0	0	0	4	4
Green	1	0	0	1	0	1	1
Casey	0	0	0	0	1	1	2
Clinton	1	50	0	0	0	1	1
Wayne	1	7	4	0	0	4	4
Lee-Owsley	5	23	2	0	0	6	6
Lawrence-Johnson	19	135	0	0	3	15	18
Johnson-Magoffin	12	130	1	0	3	19	22
Floyd-Knott	6	50	1	4	0	6	6
Knox	0	0	0	0	0	3	3
Estill	5	23	2	0	0	5	5
Wolfe	2	8	0	0	0	1	1
Powell	0	0	0	0	0	1	1
Morgan	0	0	0	0	0	1	1
Elliott	1	3	0	0	0	4	4
Menifee	1	0	0	0	1	2	3
Laurel	0	0	0	0	0	2	2
Jackson	0	0	0	0	0	1	1
Greenup	0	0	0	0	0	1	1
Kentucky	143	2,506	32	6	12	172	184
Tennessee	1	0	1	0	1	19	20
Mississippi	0	0	0	0	5	9	14
Alabama	0	0	0	0	0	4	4
Florida	0	0	0	0	0	1	1
Total June	149	2,506	33	6	18	205	223
Total May	103	1,561	26	2	12	199	211
Difference	46	945	7	4	6	6	12

Panhandle Operations Are Increasing

Big Texas Field Getting Second Wind. New Dome Found in South Louisiana. Lisbon Is Attraction in Arkansas

Reports from the Texas Panhandle showing 70 new tests started, bringing the total operations to above the 500 mark, add that the big field is getting its second wind. In west Texas the first large flowing well there, in southwestern Upton County, made 900 bbls. in the first 24 hours and then stopped. In south Louisiana the Gulf and Standard of Louisiana have proved a new dome, south of Stark and 6 miles north of the Vinton Pool, in Calcasieu Parish. The Atlantic Oil Producing Co. is reported to have paid a million for acreage in the heart of Arkansas' highest gravity district, Lisbon.

The Gypsy Co. well in Tonkawa which was the feature in Oklahoma the past week has been choked but is still making about the same amount of water. The last report was 5,700 bbls. of oil and 850 bbls. of water.

Oklahoma

The Gypsy Co.'s well, in the Tonkawa district, has been choked down with practically no change in the amount of water it produces. It is averaging about 5,700 bbls. of oil and 850 bbls. of water.

The Sinclair Co.'s No. 7 Warrior has discovered a large body of Hunton lime in Seminole County. It has been drilled into 105 feet and still in the lime. The well has a good showing of oil but the hole filled with water. It is regarded as an important find

Kansas

A new find northwest of the old Winfield Pool in Cowley County promises renewed activity in Kansas. It was the well of the J. A. Hull Co. and Shaffer Oil & Refining Co. which started flowing at the rate of 40 bbls. an hour and was doing 32 bbls. an hour at last report. The oil is 36 degrees.

North Texas

The largest flowing well in west Texas, Marland's No. 8, on the Burleson area in southwestern Upton County which, after producing 900 bbls. the first 24 hours, stopped flowing, at first was hailed as heralding another Big Lake Pool. It is being agitated and preparations are being made to drill deeper. The oil is 30 degrees and the well is a half mile from production.

The Cook Pool in Shackelford County has again been extended, in two directions. Four wells were added during the week and several others are on the sand ready to drill in.

California

Ventura Avenue and the Long Beach deep zone were the only fields that showed an appreciable change in May, the latter being down 2,889 bbls. and the former being up 5,220 bbls. Both districts are expected to show an increase in June with Ventura Avenue perhaps exceeding 37,000 bbls. a day.

The largest flowing well yet completed in the deep zone on the northwest extension of Long Beach was completed by Julian Petroleum Corp. doing 1,342 bbls. from 4,840 feet. Some 8 or 10 additional wells are to be deepened.

Inglewood is declining slightly but has not yet reached the settled stage. Dominguez is also gradually settling. At Ventura Avenue, the Shell's No. 8-A Gosnell is flowing 3,890 bbls. from 5,146 feet. Associated's No. 2 Hartman dropped from 3,000 to 750 bbls. with 10,000,000 feet of gas but may increase as the gas flow diminishes.

Louisiana-Arkansas

A spurt by Lisbon aided Louisiana-Arkansas production during the week. Drilling will likely continue brisk during the summer in the Arkansas Field. Two more outside tests at Urania proved failures. Trinity tests in Caddo Parish were delayed by drilling mishaps. Operations along the Caldwell-Angelina flexure continue to increase without any material discovery so far.

The Atlantic Oil Producing Co. is reported to have paid above $1,000,000 for 140 acres in Lisbon, Arkansas highest gravity field.

Central West

The Allendale Field in Wabash County, Illinois, returned to the limelight with the completion of the Mount Carmel Co.'s well flowing 300 bbls. Another made 70 bbls. Adams County, Indiana, reported a 35-bbl. well and Jay County one of 50 bbls.

Kentucky-Tennessee

The Hopewell Pool, in Cumberland-Adair Counties, reported a well making 750 bbls. In the same area, on Crocus Creek, a well is said to be flowing 15 bbls. an hour. The Raydure well, on Sulphur Creek, was reported doing 10 bbls. an hour. The Lecta Pool, in Barren County, had another 50-bbl. well.

Pennsylvania-West Virginia

The Harvey district in Mingo County, West Virginia, is reported due for a play now that pipeline facilities are available. Licking County, Ohio, had a well making 110 bbls. Hocking County, one of 45 bbls., and Holmes County one of 40 bbls.

New Mexico

The Maljamar Corp.'s No. 1 Baish made 100 bbls. naturally from a new sand at 4,108 feet.

Gulf Coast

South Louisiana was the most interesting spots in the Coastal area. The Gulf Co. and Standard Oil Co. of Louisiana proved a new dome 6 miles north of the Vinton Pool in Calcasieu Parish and south of Stark. The district had been considered promising and the acreage is tied up.

The Gulf-Standard of Louisiana's No. 3, in the new area, known as the Stark Dome, is pumping 40 bbls. of pipeline oil at 3,350 feet.

Texas Panhandle

Seventy new tests were started in the Texas Panhandle bringing the total to over 500. The Clark & Baldridge well, which was partly responsible for the activity in Gray County, when placed on the pump made 230 bbls. the first day and 210 bbls. the second day. Thirty-two tests followed its original showing.

The Coble and Whittenburg well, in Hutchinson County, flowed 1,200 bbls. The biggest shot of the week, 520 quarts, was placed in the Phillips & Pulaski No. 1 E. Cockrell, which made 60 bbls. in the first two hours.

The Humble Co.'s No. 6 Powell in Crockett County, pumped 800 bbls. from sand at 2,655-64 feet, the best producer yet in that county.

Southwest Texas

New activity in wildcatting, particularly in Medina County, featured the southwest Texas fields. This county is getting more Edwards lime tests than any other county in the Balcones Fault zone. The Randado, Bruni and Edgington areas continue active. The Simms Co.'s Leyendecker well, 5 miles south, got a little gas and nothing more but its No. 1 well is proving better than expected, probably a 150 or 200-bbl. pumper, three-quarters of a mile north of production.

Mexico

Out of 20 completions in Mexican fields, 15 were dry. The best well was 2,500 bbls. initially.

Canada

The Imperial Oil and Royalite companies are making good progress in their wells in Alberta. There is no sign of slackening in the general activity in the Canadian fields.

Rocky Mountain Area

The Union Oil Co. of California got two good wells in the Fort Collins, Colorado Field, one of 1,300 bbls. and one of 1,200 bbls. A new sand is reported from Montana where two completions of 1,500 bbls. and 1,000 bbls. were made. There were only two dry holes out of 15 tests drilled in during the week. The Midwest Co. had a 2,000-bbl. well in the first Wall Creek sand at Salt Creek and one of 1,000 bbls.

Late News From the Fields

OKLAHOMA

The Amerada Petroleum Corp.'s No. 1 Simmer, SW cor. NW, Section 18-10-11, Okfuskee County, made two small flows of 25 bbls. each from sand at 3,643-45 feet.

The Comar Oil Co. has a good well which extends the South Braman Pool in Kay County a quarter mile to the northwest in No. 3 Lawrence, an odd location which is close to the SW cor. NE SE, Section 5-28-1w. The regular Stalnaker sand was found 2,370-75 feet in this well and it flowed 140 bbls. an hour for the first 6 hours. The area of the pool is limited by a dry hole drilled by the White Eagle Oil Co. a half mile northwest of the new well.

The Reiter-Foster Oil Co.'s No. 1 Kinneman, SW cor. SW. Section 4-19-1w, Payne County, is still making 40 bbls. daily, and drilled through the sand at 4,789 feet. This is one of the most closely observed wells in Oklahoma today.

KANSAS

In Cowley County, Grey and others had a small showing of oil in No. 1 Hulmes, NE cor. SE NW, Section 14-30-6. Sand was 2,900-20 feet.

In Saline County, L. S. Johnson's No. 1 Davis, NE cor. NW SW, Section 29-14-2w, ha da show of gas at 2,660 2,700 feet and is drilling ahead.

The Skelly Oil Co. and others' No. 1 Richardson, SW cor. SW, Section 30-30-14w, is running the 5-inch casing at 4,005 feet after a show of oil was found at that depth. This is a wildcat well in Barber County.

GULF COAST

HOUSTON, Tex., June 29. — Humble Oil & Refining Co.'s No. 25 Chesson, in the Humble Pool, is flowing 1,500 bbls. at 4,600 feet. The Gulf Co. and Standard of Louisiana's joint No. 3 in the new Stark Dome in Calcasieu Parish, Louisiana, is pumping 40 bbls. of pipe line oil at 3,350 feet.

NORTH CENTRAL TEXAS

FORT WORTH, Tex., June 29.—Phillips Petroleum Co.'s No. 1 Sneed, in Moore County, is good for 20,000,000 feet of gas from sand at 2,429-64 feet. The biggest increase was at the bottom. This well is 3½ miles northeast of the old Shamrock gasser, now reported as spraying a little oil.

The Marland Oil Co.'s No. 1 Belle Wisdom, Section 35, Block M-23, Hutchinson County, is making a bailer of oil hourly at 2,990-98 feet; the Relief Oil Co.'s No. 2 Smith, 200 bbls. at 2,785 feet.

The Humble Oil & Refining Co.'s No. 6 Powell, Crockett County, pumped 800 bbls. the past 48 hours from sand at 2,655-64 feet. It is the best well in the pool.

Milham Corp.'s No. 1 Sedwick, Shackelford County, is now making 150 bbls. flowing by heads. It will not be deepened but will be put on the pump.

ATLANTIC OIL BUYS ACREAGE IN LISBON

SHREVEPORT, La., June 29. — Atlantic Oil Producing Co. strengthened its foothold in the Lisbon, Ark., Field by purchasing the 140-acre lease of W. D. Wingfield and George W. James in Section 9-17-16 for a price reported to be slightly above $1,000,000, part cash and part oil. The property is in the heart of Arkansas' highest gravity field and has 24 producing wells on it with a daily average of 1,500 bbls. The top price of Lisbon crude is $2.30.

One new well is being completed on the lease as a pumper and another is drilling. The biggest well to be completed in Lisbon was brought in on the Atlantic's newly acquired property. The Atlantic already had production in Lisbon and has a 4-inch line running to the field and posts prices there. The deal places the Atlantic as the leading producer of the field whose daily average is better than 10,000 bbls.

TULSA HEADQUARTERS OF GEOLOGISTS' ASSN.

Tulsa has been selected as the headquarters of the American Association of Petroleum Geologists, one of the largest organizations connected with the petroleum industry, it having a membership of more than 1,500. Announcement of the decision of the executive committee of the association was received in Tulsa on Tuesday of this week by Arthur F. Truex, president of the Tulsa Geological Society. It was stated J. P. D. Hull, recently selected as business manager of the association, will come to Tulsa within the next few days to establish his offices. Fort Worth and Dallas, Texas, made a strong bid for the location of the headquarters, but the executive committee decided Tulsa was the logical location for the important office.

In connection with the establishment of the headquarters of the association in Tulsa, the geological library being assembled by the association will be brought to Tulsa and placed in this city. The Tulsa Geological Society will appoint a committee to cooperate with the national association in completing arrangements for the national convention to be held in Tulsa next March. It is expected that convention will attract more than 1,500 persons.

Officers of the American Association of Petroleum Geologists are: Alex W. McCoy, president; C. R. McCollum, vice president; Fritz Aurin, secretary, and J. L. Rich, editor of the bulletin.

INTERNATIONAL SUPPLY CHANGE

The International Supply Co. has had a few changes in its official family. J. W. Sloan, formerly president, has become chairman of the board; S. E. Savage, formerly secretary-treasurer, is president and general manager; L. A. White, formerly assistant secretary-treasurer, is now secretary-treasurer, and Ed. C. Welsh is vice president in charge of sales.

XUM

Upton County Well Disappointing

First Large Flowing Well in West Texas Stops Flowing After Doing 900 Bbls. in 24 Hours. Cook Pool Extended

By C. D. Lockwood
Staff Correspondent, North Central Texas

FORT WORTH, Tex., June 28.—The first large flowing well in West Texas outside of the Big Lake Field caused many expressions last Saturday similar to "Eureka! they've found it!" meaning the long-awaited Big Lake Pool No. 2. But the Marland Oil Co.'s No. 8 A. S. Burleson, in Section 100 of the T. C. Jones Survey, in southwestern Upton County, stopped flowing after producing 900 bbls. the first 24 hours from 4 feet in the pay topped at 2,100 feet. It was being agitated Monday and preparations were under way to drill deeper into the formation. The gravity of the oil tests 30 degrees and the well is one-half mile east of production, in the center of the Marland Oil Co.'s 480-acre Burleson tract. It is about 6 miles each way from the southwestern corner of Upton County. While the value of this well was a little uncertain Monday, there seems to be a strong probability that the Marland Oil Co. has at last found another real oil field in that part of the country and that some large wells may be expected from it.

Outside of the Upton County district, the principal news of importance in the North Texas district came from Shackelford County, where the Cook Pool was again extended in a couple of directions and the Magnolia Petroleum Co.'s No. 1 Moberly, three-quarters of a mile south of production in the Cook Pool looked good for 75 bbls., indicating the possibility of another pool to the south. In addition to the two dry holes in the Cook Pool mentioned last week, another was added this week, and Coleman County's pride, the Dibrell Pool, suffered a severe blow when the White Eagle Oil & Refining Co.'s No. 2 Dibrell drilled through some of the driest sand ever found in Texas. Montague County scored another increase in production, and therefore, made another record. Brown County had a rather quiet week, as did Callahan also, neither of them contributing anything spectacular.

Upton County

In Upton County, the Marland Oil Co.'s No. 5 Burleson flowed 260 bbls. in 24 hours from lime pay at 2,100-40 feet. It was being swabbed Monday. No. 4 Burleson topped the pay at 2,165 feet and at 2,225 feet had 1,400 feet of oil in the hole. It was ready to tube; No. 6 Burleson was also swabbing at 2,145 feet; No. 7 was running 8-inch at 2,038 feet; No. 9 was drilling at 210 feet; No. 1-A topped the pay at 2,126 feet and had 400 feet of oil in the hole at 2,166 feet. It was drilled to 2,176 feet and was swabbing. Marland's No. 3 Sanger swabbed 35 bbls. after a shot at 2,180-2,226 feet; No. 4 topped the pay at 2,157 feet and had 400 feet of oil in the hole at 2,225 feet and was preparing to run tubing; No. 5 was shot with 200 quarts at 2,165-2,205 feet and was cleaning out; No. 6 topped the salt at 610 feet and was drilling at 1,490 feet; No. 7 topped the salt at 609 feet and was drilling at 1,495 feet; No. 8 was rigging up. The Dixie Oil Co.'s No. 4 Burleson topped the salt at 590 feet and was drilling at 780 feet; No. 5 was drilling at 2,030 feet; No. 2 E. S. Hughes was drilling at 1,620 feet. The Republic Production Co.'s No. 3 Baker was drilling at 275 feet. The Roxana Petroleum Corp. completed the rig for No. 1 Estep. The Sun Oil Co. also had a rig up for No. 1 Burleson.

Following is the production of this pool for the 24 hours ended at 7 a. m. Monday morning:

Company—	Wells—	Bbls.
Marland Oil Co.	1 Benton Land	22
	1 Zock	37
	1 & 2 Sanger Bros.	35
	3 Sanger Bros.	50
	4 & 5 Sanger Bros.	..
	2 & 4 Burleson	15
	3 Burleson	40
	1-A Burleson	35
	5 Burleson	239
	6 Burleson	240
	8 Burleson	205
Republic Prod.	1 & 2 Baker	45
Dixie Oil Co.	3 Burleson (flowing)	75
Gulf Prod. Co.	1 Baker	17
Marland Oil Co.	1-B Hughes	55
Total, 19 wells		1,110

Crockett County

In Crockett County, the Humble Oil & Refining Co.'s No. 7 Powell pumped 15 bbls. at 2,665 feet; No. 6 Powell topped the pay at 2,655 feet and at 2,664 feet had 900 feet of oil in the hole. It was waiting on pumping equipment. The J. S. Cosden, Inc.'s No. 1 Noelke was shut down at 3,228 feet, contract having been completed. There are 23 active tests and locations in Crockett County.

In Reagan County, the Big Lake Oil Co. had rigs up for Nos. 86, 87, 88 and 89. Locations have been made also for Nos. 90 to 105, inclusive.

In Shackelford County, the Magnolia Petroleum Co.'s No. 1 Moberly, NE cor. NW NE, Section 86, Block 10, E. T. R. R. Survey, mentioned above, was drilled 3 feet in sand topped at 1,308 feet and swabbed 115 bbls. of oil and 40 bbls. of water. It is estimated good for about 75 bbls. This corresponds in every way to the Cook sand and with the Amerada Petroleum Corp.'s 10-bbl. well which was completed a few weeks ago makes it appear that another pool may exist to the south of the present Cook Ranch Pool.

Cook Pool

Four wells were added to the Cook Pool during the week and several others were on the sand ready to drill in. Monday there were 25 producers, 14 wells drilling and 17 locations in this pool, the Roeser & Pendleton and Marland interests having made 10 new locations Monday. These are No. A-14, 15, 16, 17, 18, 19, 20 and 21 and B-7 and B-8, all in Section 84, along the middle line of the south half of the section. The Humble Oil & Refining Co.'s No. 4 Cook had sand at 1,322-40 feet and looked for a while like a dry hole but got some oil finally and flowed 167 bbls. last Friday night. It was completed for 200 bbls. The Roeser & Pendleton and Marland Oil Co.'s No. 7 Cook A-84, diagonal northeast offset, and one of the two farthest north producers, was drilled a little too deep and found some water. It was plugged back from 1,374 feet to 1,353-68 feet and was tubed. It is estimated good for 300 bbls. Its west offset, on the other hand, was good for 700 bbls. without being tubed in sand at 1,341-56 feet. The Humble's No. 5 Cook, farthest west producer, made 350 bbls. at 1,355-72 feet.

Roeser & Pendleton and Marland's No. A-9-85 was shot with 10 quarts at 1,238-43 feet without results and was abandoned at 1,283 feet. This is in the south part of the pool, as mentioned last week, directly offsetting Roeser & Pendlton's No. 5 Cook B-85 which was abandoned at 1,335 feet. No. A-2-85, east offset to the first dry hole in the pool, was also a failure and plugged at 1,370 feet. Two wells south of A-9-85 and B-5-85 are probably outside the pay but one of them is to be made a deep test. It is No. A-7-85, and will go on down until it strikes a hole full of water. Its east offset, No. B-4-85, will be shut down at 796 feet.

The sand in this pool is very irregular, resembling a condition similar to sand dunes on the surface. Roeser & Pendleton's No. 8-2-84, farthest north well on the east side of the field, got the top of the sand 18 feet higher structurally than its west offset, No. A-3-84, but when drilled in Monday it seemed to have only 3 feet of sand topped at 1,340 feet, cable measurement. The oil rose in the hole, however, to within 200 feet of the top so it should make a good well and there may be more sand below a shale break. No. A-15-85 was drilling at 1,105 feet Monday; No. 8-5-84 at 600 feet; No. B-3-84 at 500 feet; No. A-13-85, CSL NW NE, at 880 feet; No. B-9-85, C NE NE, at 1,150 feet; No. B-11-85, CSL NE NE, at 650 feet.

The Milham Corp. of Texas has an excellent producer in its No. 1 Sedwick, Section 1,561, T. E. & L. Survey, which was flowing 450 bbls. by heads in the first 18 hours from lime at 3,550-70 feet. The oil tested 41 degrees gravity and there was no water with it. The well is to be deepened.

In Eastland County, The Texas Company's No. 1 C. H. Noble was flowing by heads estimated at 100 bbls. from the top of the lime at 3,290 feet.

In Brown County, the Magnolia Petroleum Co. is rumored to have paid $100,000 for the Lester well and 160 acres near Thrift. This well came in last week and opened a new pool in the Cross Cut sand.

Completions—Young County

Barkley and others' No. 3 E. Rogers, Section 166, T. E. & L. Survey, pumped 80 bbls. at 861-63 feet, total depth 874 feet. Biljobul Oil Co.'s No. 1 Gilmore, Section 14, Young County School Land, was dry and abandoned at 605 feet. Burton and the Texhoma Oil & Refining Co.'s No. 1 Benson, Section 1,450, T. E. & L. Survey, was a 30-bbl. well at 916-47 feet. R. Campbell's No. 1 fee, was a duster at 1,026 feet, having drilled dry sand at 915-20 feet. R. I. Carter's No. 12 Benson, Section 1,450, T. E. & L. Survey, made 65 bbls. at 929-47 feet. The Cosden-Consolidated Oil Co.'s No. 6 Benson, Section 1,391, same survey, was an 8-bbl. pumper at 867-902 feet; No. 7 pumped 9 bb's. at 879-96 feet; No. 1 Stewart, in the NE of the J. A. Zinn Survey, A-1,661 was dry and abandoned at 1,504 feet.

Douglas Oil Co.'s No. 1 Prideaux, Section 15, Young County School Land, pumped 4 bbls. at 510-17 feet. Golding & Cochran failed to find any sand in No. 1 Tucker, Section 167, T. E. & L. Survey, and abandoned it at 1,103 feet. Hamilton & Martin's No. 1 Whitehead, Section 166, same survey, made 38 bbls. at 868-76 feet, while Jeffers & Jeffers' No. 1 Hall in Section 167 was a failure at 908 feet and plugged. Long and

(Continued on Page 140)

SEVENTY NEW PANHANDLE TESTS; OPERATIONS NOW OVER 500 MARK

By C. D. Lockwood
Staff Correspondent, Texas Panhandle

Seventy new tests added to the Texas Panhandle during the past week! And just to show that nothing is too much, the Marland Oil Co. staked another location out in what is facetiously called the Canadian River. Well, a man doesn't need particularly good eyes to be able to discern growth in the Panhandle boom. The total of locations, rigs and drilling wells has now skidded past the 500 mark and seems to be getting its second wind. Hutchinson County received 50 of the new locations this week, Gray County 12 new ones in addition to all of those mentioned last week, Ochiltree County 1, Hemphill County 2, and some new counties entered the list just to round out the boom. The drilling activity now embraces every county in the two northern tiers of the Panhandle. Roberts and Sherman and Hansford were the new entrants.

The Clark & Baldridge No. 1 Merton Brothers, now belonging to the Shamrock Petroleum Co., newly organized, was put on the pump this week and gauged 230 bbls. the first 24 hours and 210 bbls. the second day. This is the well which is partly responsible for the Gray County boom, causing 32 new tests to start up there, and also causing the Phillips Petroleum Co. to pay some important money for an 80-acre tract.

Wheeler County's sensational well—at least it was sensational for a while—The Gibson Oil Co.'s No. 3 Phillips, in Section 41, Block 24, H. & G. N. Survey, which was reported last week flowing 50 bbls. an hour was down to about 300 bbls., with 2,000,000 feet of gas coming from just above the oil. The pay was found in this well at 2,269-80 feet in sandy lime.

In Hutchinson County, one of the best of the new producers was the Coble Oil Co. and Whittenburg's No. 4 J. A. Whittenburg, Section 12, Block Y, which was flowing 1,200 bbls. from the lime at 2,-885-2,915 feet. The Douglas Oil Co. and Cline's wildcat No. 1 Whittenburg, in Section 15, Block X02, which has been the recipient of considerable attention during the past few weeks, was making about one bailer of oil an hour and no water from lime topped at 3,040 feet and drilled to 3,086 feet. It was to have been shot Monday afternoon.

The Summit Oil Co.'s No. 2 Whittenburg, in Section 13, Block Y, flowed 500 bbls. initially following a 200-quart shot in lime at 2,950-3,030 feet. The Canyon Oil & Gas Co.'s No. 3 Whittenburg, in Section 12, Block Y, one of the biggest producers in the field, stopped flowing June 22 but was cleaned out to the bottom and revived. At latest report it was again flowing 150 bbls. an hour. It is making 8 to 10 per cent water, however. The Phillips Petroleum Co.'s No. 1 Whittenburg-Patton, Mary Whitley Survey, flowed 400 bbls. from total depth of 2,-952 feet the first 24 hours then stopped flowing and an effort was being made to shut off the water. W. Scott Heywood's No. 1 W. S. Christian, in Section 31, Block V, swabbed 60 bbls. the first three hours from pay found at 3,068-3,100 feet. Preparations were being made to shoot this well.

Hutchinson County production just about held its own during the past week, the daily average for all of the wells in the county being slightly less than last week. The Phillips Petroleum Co. jumped into the lead with a daily increase of 1,900 bbls. due to the bringing in of some good wells and cleaning old

(Continued on Page 142)

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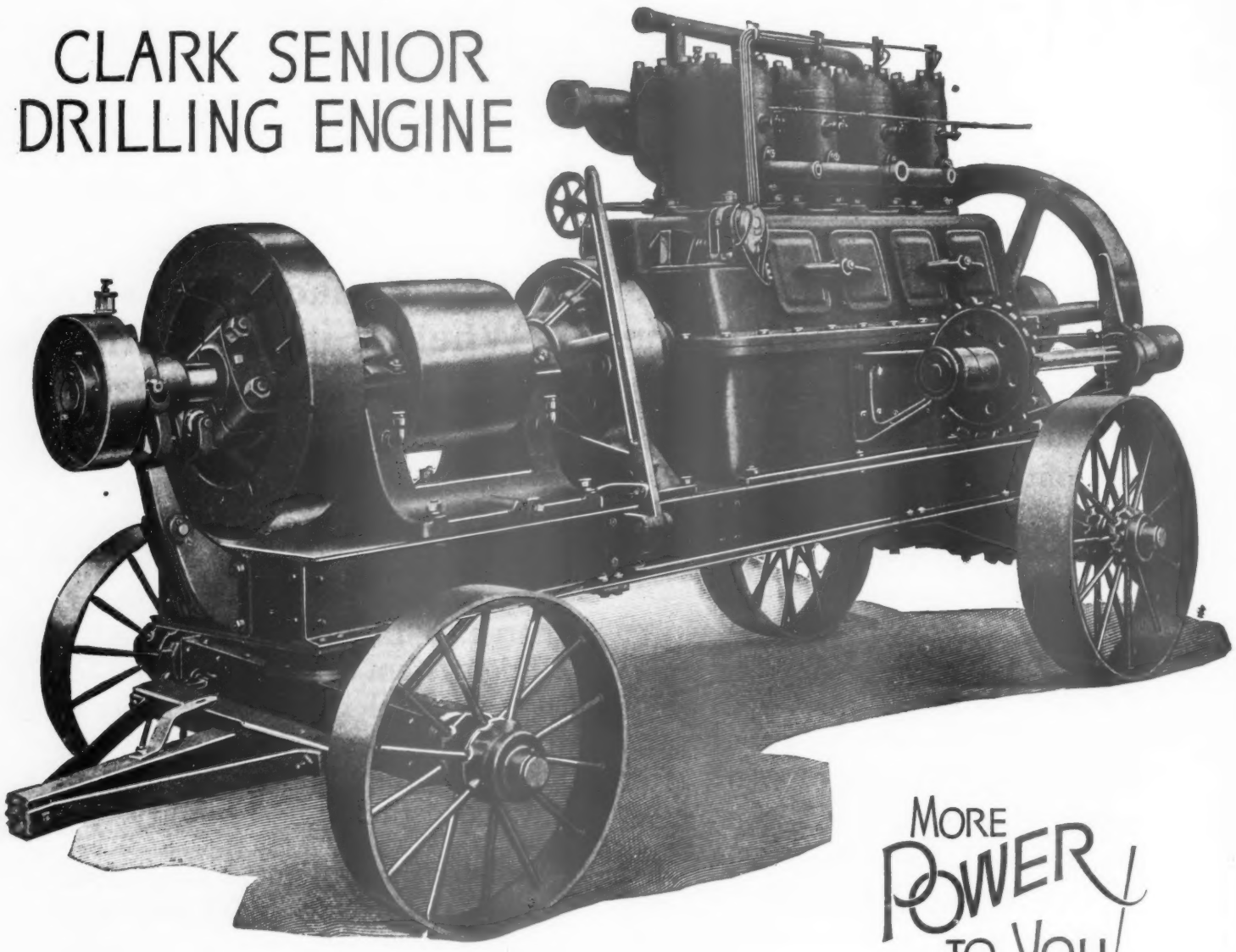

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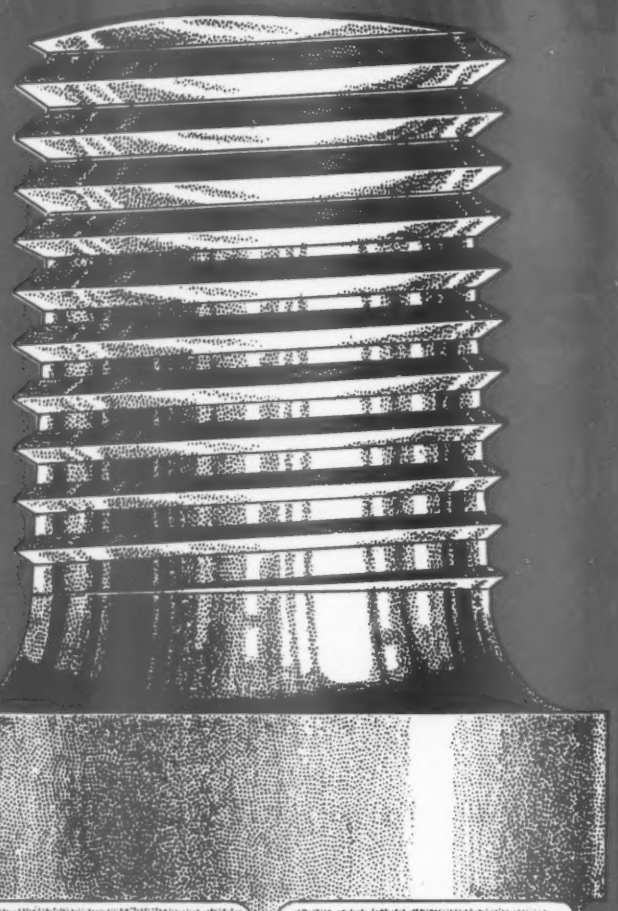

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Two Outside Tests at Urania Prove Failures. Production of North Louisiana-Arkansas District Off 2,020 Barrels

By James H. Dameron
Staff Correspondent, Louisiana-Arkansas

SHREVEPORT, La., June 28.—Interest in the Louisiana-Arkansas district during the past week was focused principally upon the deep sand tests and around the extended territory of the Urania Field. The deep test attention was given to Louisiana because little of interest happened in the Arkansas deep tests.

In Urania and in that territory which extended the field 2 miles south, two new wells are in the sand and found oil. The Montague Oil Co.'s No. 2 Zenoria Lumber Co., Section 11-9-1e, had the sand around 1,497 feet and took three feet of sand. A little fluid stood in the hole and when the bit was run back in and on bottom the well started flowing at the rate of 200 bbls. of fluid daily about 20 per cent of which was salt water. When the bit was brought out the well stopped flowing and Saturday morning the well was reported to have again started flowing but making practically all salt water.

North of the extensioner well George W. Wetherbee's No. 1 Urania, Section 2-9-1e, is three feet in sand topped at 1,497 feet. The hole is standing full of oil and slops over occasionally on the derrick floor. The oil cannot be bailed down more than 100 feet.

Eleven first reports were made in Urania last week and several of the new operations were for tests in wildcat territory. Characteristic of the field several old wells came back strong when they were worked over and that feature served to boost Urania's daily average production better than 1,000 bbls. Two of the wildcats north and northeast of production were failures.

Trinity Tests

In Caddo Parish the Trinity tests are again clamoring for attention. Gulf Refining Co.'s No. 12 Tyson, Section 14-21-15, which had the big gas production at 3,746 feet, was in hard lime and black shale at 3,815 19 feet Saturday morning. Operations were delayed, though, when the drill stem stuck at 3,815 feet when drillers started out of the hole with it. A fishing job at 3,962 feet was cleaned up at the Gulf's No. E-1 Muslow, Section 35-21-15, and it is drilling ahead in hard brown shale streaked with lime at 3,998 feet.

Another week of drilling failed to uncover anything along the Caldwell-Angelina flexure. However, operations there continue to show an increase. Among the new blocks assembled was one by F. M. Fuller and associates who have 7,000 acres blocked in the northwest corner of the parish. A derrick is being moved in for the first test which is on the Harrison farm in Section 9-8-5w. Another test is to be drilled either in Section 21 or 28. Fuller is a pioneer wildcatter in the district and opened up the Waskom gas field.

In DeSoto Parish J. P. Evans' No. 1 Sutherlin, Section 20-12-14, which is testing the Blossom sand, is being followed closely. The test was dry at 2,880 feet with a light showing of oil and 8 feet deeper it started making about 1,000,000 feet of gas. It is now being cored.

The Evans test is about 1½ miles north of The Texas-Standard Oil Co.'s No. 1 Sutherlin, which was drilled in July, 1920. It made about 11,000,000 feet of dry gas at 2,840 feet, but eventually salt water killed off most of the gas. The test is still making a little gas. Formations in both tests are running about the same, the difference in depths being in elevation.

With no definite depth to stop, Ohio Oil Co.'s No. 1 Cox, Section 23-21-10, in Cotton Valley, will most likely be drilled until production is found or the test runs out of hole. The test is already more than a mile deep and formations are being cored all the way down. Saturday morning the test was drilling in sticky shale at 5,530 feet. The deepest test ever drilled in either Louisiana or Arkansas was by the Gulf in DeSoto Parish and it was abandoned at 6,090 feet.

Monroe Field

In the Monroe gas field two more gas wells were completed and a 3,000-foot oil test was abandoned. Construction work on the first big gas line out of the Monroe Field is progressing rapidly. The line is a 22-inch line being built for the Interstate Gas Co. from Monroe to Baton Rouge, La., primarily to supply the Standard Oil Co's Baton Rouge refinery with fuel. Fourteen miles of the main line has been laid from the Monroe end about 20 miles of gathering lines in the field. One pump station is about complete.

Lisbon did most of the shouting for Arkansas last week by taking a spurt in new production and by extending production in two other sections. Along the east line of Section 17 a well flowing 60 bbls. was completed and in Section 20 a 10-bbl. pumper was completed. Drilling operations in Lisbon will in all probability continue brisk all summer because of the announced drilling campaigns of various companies operating in that field.

Louisiana's gain in production was not sufficient to offset the losses in Smackover and the combined daily average production of the two states tumbled off 2,020 bbls. more. In the last two weeks the district's daily average production has dropped 10,000 bbls. Urania gained 2,000 bbls. last week, while De Soto and Red River, Elm Grove and Homer recorded slight gains. All other fields in Louisiana fell off slightly save Cotton Valley, which went off 600 bbls.

Smackover heavy chopped 2,130 bbls. from its daily average and the light oil field fell off 630 bbls. The sharp loss in Smackover during the past two weeks was charged to the decline in old wells. Lisbon and Stephens were the only two fields in the state recording a gain. In all fields Arkansas lost 2,760 bbls.

PRODUCTION BY FIELDS

Louisiana	
Bellevue	2,350
Caddo light	9,810
Caddo heavy	2,250
Cotton Valley	7,920
DeSoto and Red River	3,845
Elm Grove	625
Haynesville	9,960
Homer	5,705
Urania	17,505
Total	59,970
Arkansas	
Smackover heavy	123,870
Smackover light	16,410
El Dorado	8,920
Lisbon	10,390
Nevada	2,590
Stephens	1,920
Total	164,100
Tota both states	224,070
Total last week	226,120
Difference	2,050

Pipe Line Report

Runs from leases in May from the Smackover, Ark., heavy oil district:

Company—	Month Bbls.	Daily Av. Bbls.
Crown Central Oil Corp.	21,236	685
Henry H. Cross Co.	84,363	2,721
Crusaders Pipe Line Co. of Louisiana	17,388	561
Gulf Refining Co. La.	847,163	27,324
Southern Pipe Line Co.	279,712	9,023
American Petroleum Co.	89,738	2,901
Humble Oil & Ref. Co.	166,848	5,382
Houston Oil Co. of Texas	57,907	1,868
Kettle Creek Refining Co.	93,220	3,007
Lion Oil & Ref. Co.	151,738	4,894
Lousiana Oil Ref. Corp.	124,019	4,000
McMillan, Fehlman & Oliver	50,434	1,627
Magna Pipe Line Co.	62,187	2,006
Magnolia Petroleum Co.	71,727	2,314
The Pure Oil Co.	41,816	1,349
Sam M. Richardson Co.	4,112	133
Roxana Petroleum Corp.	102,103	3,293
Root Refineries, Inc.	240,392	7,755
Simms Oil Co.	242,660	7,828
Sun Oil Co.	44,675	1,441
Speith Pipe Line Co.	55,108	1,778
Standard Pipe Line Co.	873,432	28,175
Shreveport-El Dorado P. L. Co.	160,646	5,182
The Texas Pipe Line Co.	321,275	10,364
Total May	4,203,899	135,609
Total April	4,285,446	142,848
Smackover Light Oil District		
Standard Pipe Line Co.	75,057	2,421
Gulf Refining Co.	89,993	2,903
Louisiana Oil Ref. Corp.	154,995	4,999
Texas Pipe Line Co.	44,350	1,431
Shreveport-El Dorado Pipe Line Co.	87,776	2,831
Magnolia Petroleum Co.	40,792	1,316
Total May	492,963	15,902
Total April	514,289	17,143

Arkansas—Union County

Lisbon bid for recognition during the past week by taking a spurt in new production and extending production into two other sections. The real extensioner was to the southwest and is far from encouraging. It was J. P. Kelly's No. 1 Mitchell, Section 20-17-16, and was completed at 2,174 feet, pumping 10 bbls. daily. The first producer making oil in Section 17 was Lion Oil & Refining Co.'s No. 9-A Mitchell, which was finished in sand at 2,125-45 feet flowing 60 bbls. daily.

Wingfield and associates' No. 4-A Slaughter, Section 9-17-16, is making 35 bbls. daily on the pump from sand at 2,073 to 2,098 feet. Rovenger Oil Corp.'s No. 2-B Goodwin, Section 16-17-16, is flowing 50 bbls. daily through 2-inch tubing and in sand at 2,113-43 feet. Pure Oil Co.'s No. O-A Harrell, Section 4-17-16, was worth 200 bbls. naturally from sand at 2,116-51 feet. In the southern end of the pool Ohio Oil Co.'s No. 3 Goodwin, Section 21-17-16, is doing 20 bbls. daily on the pump from sand at 2,112-37 feet. On the Natural Gas & Fuel Corp.'s Willett lease, Section 4-17-16, No. 2 is making 200 bbls. naturally from sand at 2,108-35 feet. Magnolia Petroleum Co.'s No. 2 Harrell, Section 4-17-16, is flowing 100 bbls. daily from sand at 2,094 to 2,130 feet. Magnolia's No. 6 Dumas, Section 9-17-16, is flowing 100 bbls. daily through 2-inch tubing in sand at 2,086 to 2,128 feet.

Keisker and associates' No. 1 Harrell, Section 15-17-16, was put on the pump and made 20 bbls. from sand at 2,096 to 2,153 feet. H. L. Hunt abandoned location for No. 2 H. O. Murphy, Section 4-17-16. Humble Oil & Refining Co.'s No. 3 Slaughter, Section 10-17-16, is pumping 35 bbls. daily, 20 per cent salt water, from sand at 2,087 to 2,108 feet. Humble's No. 6 Goodwin, Section 16-17-16, is flowing 125 bbls. daily through 2-inch tubing from sand at 2,109-30 feet. Humble's No. 3 Goodwin, same section, is flowing 175 bbls. daily from sand at 2,131-55 feet. Coates & Sowell have abandoned location for No. 2 Dumas, Section 10-17-16. Atlantic Oil Producing Co.'s No. 8-B Andress, Section 16-17-16, is making 30 bbls. daily on the pump from sand at 2,115-33 feet.

Allday Drilling Co.'s No. 2 Murphy, Section 4-17-16, had 500 feet of oil in the hole from sand at 2,131-65 feet and is waiting for a standard rig; No. 3 is drilling at 1,620 feet. Atlantic's No. 7-B Andress, Section 16-17-16, is drilling at 1,664 feet. On the Atlantic's Goodwin lease, Section 16-17-16, four new derricks are up. No. 2, NW cor. NW SW; No. 3, SW cor. NW SW; No. 6, NW cor. SW SW; No. 7, SW cor. and No. 4 is being swabbed to test sand at 2,126-59 feet. Gulf Refining Co.'s No. 1 Primm, Section 21-17-16, is drilling at 1,590 feet. Humble's No. 4 Goodwin, Section 16-17-16, is a rig, as is No. 8 on the same lease. H. L. Hunt's No. 5 H. O. Murphy, Section 4-17-16, had the sand at 2,070 to 2,149 feet, and is waiting for a standard rig. A rig is up for Keisker and associates' No. 2 Harrell, Section 15-17-16. Lion Oil & Refining Co.'s No. 2-A Dumas, Section 10-17-16, is drilling at 100 feet. Lion's No. 8-A Mitchell Section 17-17-16, is drilling at 120 feet; No. 12-A Mitchell is a rig and No. 1-C Mitchell is a rig. Magnolia Petroleum Co.'s No. 2 Dumas, Section 9-17-16, had the sand at 2,074 to 2,108 feet and is waiting for a standard rig.

Magnolia's Operations

On the Magnolia's Harrell lease, Section 4-17-16, No. 3 is drilling at 1,150 feet; surface casing was set at 202 feet at No. 4. Six-inch was cemented at 2,085 feet at No. 5 Harrell and a derrick is up for No. 6, CNL NE SE. Magnolia's No. 1 Slaughter, Section 8-17-16, is rigged up and ready to go. Natural Gas & Fuel Corp.'s No. 3 Willett, Section 4-17-16, is waiting for casing to set at 2,097 feet; No. 4 is drilling at 1,750 feet; No. 5 Willett, CSL SE NE, is a derrick, and derrick patterns are on location for No. 6, NE cor. SE NE, and No. 7, CEL SE NE. Ohio Oil Co.'s No. 4 Goodwin, Section 21-17-16, is being swabbed to test at 2,109-40 feet and No. 5 Goodwin, SE cor. NW NE, is drilling at 110 feet. Pure Oil Co.'s No. 2-N Harrell, Section 4-17-16, is being swabbed to test at 2,112-41 feet. Reynolds & Marr's No. 1 Goodwin, Section 21-17-16, is a rig and No. 2 Goodwin has 400 feet of oil in the hole from sand at 2,094 to 2,142 feet and is waiting for a standard rig.

Rovenger Oil Corp.'s No. 7 Goodwin, SW NW NW, Section 16-17-16, is a derrick and No. 8 Goodwin, NW cor. Section 16, is a derrick pattern. Rovenger's No. 3-B Goodwin, same section, is rigged up and ready to start. Rovenger's No. 3 Harrell, Section 15-17-16, has 400 feet of oil in the hole from 2,117-60 feet and is shut down waiting for a standard rig. Roxana Petroleum Corp.'s No. 6 Flournoy, Section 4-17-16, has 400 feet of oil in the hole from sand at 2,090 to 2,130 feet and is waiting for a standard rig. Simms Oil Co.'s No. 8 Perry, Section 16-17-16, is in sand at 2,082 to 2,107 feet with 300 feet of oil in the hole and waiting for a pumping rig. Southern Crude Oil Purchasing Co.'s No. 3 Slaughter, Section 3-17-16, is being swabbed to test sand at 2,065-2,110 feet, and a derrick is up for No. 4 Slaughter, NE cor. W half SW SW. Six-inch casing was cemented at 2,106 feet at Summerfield and associates' No. 1 Jackson, Section 17-17-16. Wingfield and associates' No. 2-B Slaughter, Section 3-17-16, is drilling at 682 feet.

Smackover Area

Failures went ahead of successful completions in the Smackover area in Union County last week. Broderick & Calvert's No. 7-B Murphy, Section 8-16-15, was completed for a 10,000,000-foot gas well, showing a little water, from sand at 2,688-90 feet. Simms Oil Co.'s No. 2-A Murphy, Section 15-16-15, is flowing 65 bbls. from sand at 2,606-12 feet. Natural Gas & Fuel Corp.'s No. 1 Carey, Section 17-16-15, was a failure at 2,201 feet and abandoned. Magnolia Petroleum Co.'s No. 6 Hatfield, Section 7-16-15, was junked at 2,595 feet. Magnolia's No. 1 Childs, Section 8-16-16, was put on the pump and is making 70 bbls. from sand at 2,599 to 2,607 feet. Lion Oil & Refining Co.'s No. 8 Flenniken, Section 10-16-15, was finished in sand at 2,676-83 feet and is flowing 100 bbls. daily.

Hatfield and associates' No. 2 Ennis, Section 23-17-16, was abandoned at 2,182 feet. Gaughan & Sifford's No. 1 Parks,

Section 28-16-16, was dry and abandoned at 3,068 feet. Garrett and associates' No. 1 Ford, Section 30-19-14, was abandoned at 2,375 feet.

Six-inch casing was set at 2,336 feet at Amerada's No. 7 Calloway, Section 4-16-15. Six-inch casing was cemented at 2,572 feet at F. A. Book's No. 1 McDonald, Section 1-16-16. Crestline Oil Co.'s No. 1 Telford, Section 34-17-15, is being put on the pump at 2,224 feet. Eason and associates' No. 1 Mooty, Section 22-17-16, is drilling at 1,610 feet. Same operators' No. 9 Murphy, Section 15-16-15, is drilling at 2,341 feet. Four and one-half inch casing was cemented at 2,588 feet at Federal Petroleum Co.'s No. 3 Murphy, Section 15-16-15. Grimes & Jones' No. 1 Alphin, Section 6-18-14, is drilling at 2,030 feet. Gulf Refining Co.'s No. 21 T. C. Murphy, Section 9-16-15, is drilling at 2,429 feet, and Gulf's No. 38 Hardy-Murphy, 660 feet north and 220 feet west, SE cor. Section 5-16-15, is a rig. A derrick is being built for Grimes & Jones' No. 1 Prothro, SE cor. Section 3-18-15.

F. C. Henderson's No. 2 Fitzgerald, Section 8-18-15, is drilling at 2,220 feet, and arrangements are being made to deepen Henderson's No. 2 Pratt, Section 8-18-15, which was completed late in 1921 at 2,154 feet for a 60-bbl. pumper. Hickman and associates' No. 7 Graves, Section 3-16-15, is being rigged up to deepen and was completed early in 1924 at 2,280 feet for a 40,000,000-foot gasser. Arrangements are being made to deepen Hollayfield & McFarland's No. 10 Giller, Section 11-16-15, which was completed in November last year at 2,588 feet pumping 30 bbls. of fluid. Same operators' No. 13 Giller tested salt water at 2,571 feet and is being plugged back to 2,625 feet. Humble's No. 6-B Flenniken, Section 9-16-15, is drilling at 2,446 feet and Humble's No. 2-B Lawton, Section 7-16-15, is drilling at 2,751 feet. A derrick is up for H. L. Hunt's No. 1 Hammond, NW NW SW, Section 27-16-16. Hunt's No. 2 Swilley, Section 28-16-16, tested 2,300 feet of fluid, 50 per cent salt water, from sand at 2,700-03 feet and is being plugged back to the casing seat at 2,697 feet in an effort to cut off water. Six-inch casing was cemented at 2,671 feet at Hunt's No. 3 Swilley, Section 27-16-16, and No. 4 Swilley in Section 28, is spudding. Imperial Oil & Gas Co.'s No. 1 Goodwin, Section 26-17-16, is coring at 2,585 feet. E. M. Jones' No. 1 Foster, Section 19-16-16, is drilling at 2,353 feet. Jones & Murphy's No. 1 McDonald, Section 27-19-16, cored salt water at 2,176 feet and is drilling at 2,180 feet. Keisker and associates' No. 2 Harrell, Section 15-17-16, is a rig.

Other Operations

Magnolia's No. 5 Tatum, Section 7-16-15, is drilling at 1,907 feet. Mazda Oil Corp.'s No. 6-R Lawton, Section 10-16-15, is being bailed to test at 2,607-14 feet. McGaha and associates' No. 1 Haney, Section 11-17-16, is drilling in rock sand at 2,898 feet. Arrangements are being made to test 27 feet of broken sand topped at 2,348 feet at Murdock and associates' No. 8 Hays, Section 4-16-15. Murdock and associates' No. 7 Vestal, Section 17-16-15, is being reamed to the bottom at 2,758 feet. Peer Oil Co.'s No. 6 Palmer, Section 9-16-15, is drilling at 850 feet. A. H. Ramage's No. 1 fee, Section 27-16-16, tested 2,300 feet of fluid, 50 per cent salt water, from sand at 2,673-76 feet and the hole is being plugged back to the casing seat to cut off the water intrusion. Sam Richardson's No. 2-M Murphy, Section 14-16-15, is a rig. C. L. Saxon's No. 1-B Saxon, Section 9-16-16, has 600 feet of fluid in the hole from sand at 2,671-76 feet and is waiting for a standard rig. Simms Oil Co.'s No. 3 Murphy, Section 15-16-15, is drilling at 2,350 feet.

Southern Crude Oil Purchasing Co.'s No. 1 Rumph, Section 8-16-16, is drilling at 200 feet. Southern's No. 4-A Wells, Section 15-16-15, is drilling at 1,960 feet. Standard Oil Co.'s No. 11 McClanahan, Section 6-16-15, is drilling in hard sandy lime at 2,528 feet. Sun Oil Co.'s No. 9 Brown, Section 8-18-15, is coring at 2,869 feet. Sure Oil Co.'s No. 5 Murphy, Section 15-16-15, is drilling at 1,175 feet. Weiss & Simmons' No. 1 McElroy, Section 4-16-16, tested salt water at 2,615 feet and the casing is being recemented. Williams and associates' No. 3 Goodwin, Section 16-16-14, is drilling at 1,250 feet. Wingfield and associates' No. 1 Galligher, Section 10-17-17, is drilling at 1,415 feet.

Ouachita County

Three wildcats in Ouachita County were failures last week while only two new wells were completed in the Smackover area. H. M. Harrell's No. 2 Moline Timber, Section 17-12-17, was abandoned in salt water sand at 1,890 feet. S. S. Hunter estate's No. 1 Dalton, Section 21-15-19, was dry and abandoned at 1,542 feet, and J. D. Reynolds' No. 1 Ratch & Cartier, Section 2-14-18, was abandoned at 2,520 feet. No casing was set nor was any test made. In Smackore The Texas Company's No. 7 Neely, Section 27-15-16, was completed in sand at 1,998 to 2,035 feet, pumping 20 bbls. of oil and Magnolia's No. 2 Murphy, Section 30-15-16, was finished in 10 feet of sand topped at 2,273 feet and is pumping 40 bbls. of fluid, 75 per cent salt water.

A rig is up for Gulf Refining Co.'s No. 19-A Umsted, 1,930 feet north and 230 feet west SE cor. Section 33-15-15. Humble's No. 3 Moline Timber, NE cor. Section 9-12-17, is a rig and Humble's No. 10 Hildebrant, Section 28-15-15, is a derrick. Imperial Oil & Gas Co.'s No. 4 McClanahan, Section 6-16-15, is coring at 2,273 feet. A. Meek's No. 1 Clawson, Section 35-15-17, is drilling at 1,900 feet. Ohio Oil Co.'s No. 8 Goodwin, Section 29-15-15, has 800 feet of oil in the hole from sand at 2,599 to 2,608 feet and is waiting for a standard rig. Ohio's No. 14 Muller, Section 27-15-16, is drilling at 302 feet. Phillips Petroleum Co.'s No. 1* Tate, Section 9-14-17, is drilling at 2,902 feet. A derrick pattern is on location for J. D. Reynolds' No. 1 Howell, SE NE NW, Section 15-14-18, and a rig is up for Reynolds' No. 2 Ratch & Cartier, SE cor. SW SE, Section 36-13-18.

Roxana Petroleum Corp.'s No. 6 Berg, Section 28-15-15, is drilling at 2,150 feet. Six-inch casing was cemented at 2,290 feet at Smith Drilling Co.'s No. 3-B Shirey, Section 36-15-17. Standard Oil Co.'s No. 9 Murphy, Section 29-15-15, is flowing 200 bbls. daily by heads from sand at 2,601-16 feet and 2-inch tubing is being run. Sun Oil Co.'s No. 6 Hardin, Section 27-15-16, has 200 feet of oil in the hole from sand at 2,250 feet and is waiting for a standard rig. Sunny Jim Oil Co.'s No. 1 Hicks, Section 27-15-16, tested salt water at 2,264-80 feet and arrangements are being made to abandon the test at 2,284 feet. The Texas Company's No. 17 Berry, Section 33-15-15, is drilling at 787 feet. Unity Petroleum Co.'s No. 6 Umsted, Section 33-15-15, is to be shot at 2,374 feet. In the Stephens district, Buffalo Oil Co.'s No. 4 Morgan, Section 22-15-19, is in sand at 1,551-56 feet and waiting for a standard rig. Eight-inch casing was cemented at 1,536 feet at Louisiana Oil & Refining Corp.'s No. 2 Green, Section 22-15-19. Six-inch casing was cemented at 2,154 feet at Magnolia's No. 3 Watson, Section 31-15-9. Four and one-half inch casing was set with a packer to test sand at 2,158-76 feet at J. D. Reynolds' No. 1-A Davis, Section 22-15-19, which was formerly reported abandoned at 1,516 feet. Reynolds and associates' No. 1 Holton, Section 15-15-19, is shut down waiting orders at 1,538 feet.

Columbia County

One new producer was all claimed by the Stephens Field in Columbia County last week and it was Gorden, Powell & Dickson's No. 3 Jones, Section 36-15-20, which was completed for a 15-bbl. pumper in sand at 2,189 to 2,219 feet. R. W. Aarnes' No. 2 Brown, Section 13-15-20, is shut down at 3,327 feet for orders. Gorden, Powell & Dickson's No. 4 Jones, Section 1-16-20, formerly No. 8 Jones, is drilling at 500 feet. Haynesville Trust Co.'s No. 1 Wingfield, Section 18-19-19, is drilling in lime at 2,400 feet. Kentucky Arkansas Petroleum Co.'s No. 1 Peter Doss, Section 29-19-20, is being washed to the bottom at 2,450 feet.

Nevada County

Zing and associates' No. 4 Womack, Section 10-14-21, was abandoned at 1,248 feet. Autrey Oil Co.'s No. 3 Womack, Section 10-14-21, is waiting for a standard rig at 1,138 feet. Furen and associates' No. 1 Groves, Section 2-14-21, is a rig. Humble's No. 4 Bodcau, Section 10-14-21, is drilling in chalk rock at 1,971 feet. Zing and associates' No. 1 Blakely, Section 27-13-20, was not abandoned at 1,228 feet and is drilling in rock at 1,282 feet.

Scattered Wildcats

A short string of 4½-inch casing was cemented at 2,590 feet at Southern Crude Oil Purchasing Co.'s No. 1 Calion Lumber, Section 1-16-14, Calhoun County. Haley and associates' No. 1 Moore, Section 29-9-10, Cleveland County, is shut down at 2,612 feet for orders. A rig is up for Frank S. Meyers' No. 2 Nichols, 860 feet south and 200 feet west NE cor. SE, Section 17-11-25w, Hempstead County. In Lafayette County Arkansas Fuel Oil Co.'s No. 4 Red River Lumber Co., Section 18-19-24, was not abandoned and is drilling ahead in sandy shale at 3,170 feet. Arkansas' No. 4 Allen, same section, is rigged up and ready to go. Bostic Drilling Co.'s No. 1 Frazier, Section 8-18-24, is drilling in lime and shale at 2,515 feet. In the same county Gulf's No. 1-E Red River, Section 10-19-24, is drilling at 530 feet. Greason and associates' Little River County test, No. 1 Waldrop, Section 4-13-31, is drilling at 540 feet. In the same county Mellick Oil Co.'s No. 1 Hawkins, Section 10-11-31, is drilling at 1,600 feet.

Louisiana—LaSalie Parish

A couple of more outside tests in the Urania district were failures. One was Ayers and associates' No. 1 Miller, Section 31-11-2e, 1 mile northwest of production and it was abandoned in salt water sand at 1,715 feet. Five miles to the northeast Cherokee Petroleum Co.'s No. 2 Louisiana Central, Section 19-11-3e, was abandoned in salt water sand at 1,751 feet. In the producing area Louisiana Oil & Refining Corp.'s No. 19-B Tremont, Section 25-10-1e, was junked at 1,524 feet because of a gas blowout. Natural Gas & Fuel Corp.'s No. 7-E Urania, Section 18-10-2e, tested salt water with a show of oil at 1,533 feet and was abandoned. Dixie Oil Co.'s No. 6 Urania, Section 24-10-1e, was completed in sand at 1,547-52 feet flowing 300 bbls. daily. Hunt and associates' No. 12 Tullos Heirs, Section 26-10-1e, is making 40 bbls. on the pump from sand at 1,490-96 feet and No. 13 Tullos Heirs on the same lease is flowing 100 bbls. from sand at 1,490-98 feet. Louisiana Oil & Refining Corp.'s No. 8-A Tremont, Section 35-10-1e, is flowing 150 bbls. daily and is in sand at 1,540-47 feet. The best completion of the week was Love and associates' No. 4 Zimmerman, Section 25-10-1e, which is flowing 500 bbls. daily from sand at 1,533-36 feet.

Arizola Petroleum Co.'s No. 9 Tannehill, SW cor. SW NW, Section 36-10-1e, is a derrick. A rig is up for Beckman

(Continued on Page 109)

MALJAMAR WELL MAKES 100 BBLS. FROM NEW SAND AT 4,108 FEET

By Special Correspondent

ARTESIA, N. Mex., June 26.—A 100-bbl. well, flowing natural is the reward of the Maljamar Oil & Gas Corp. for betting an 8-inch hole against Lea County, New Mexico. This production is coming from a new sand picked up at a depth of 4,108 feet which has been drilled into a depth of 2 feet. Oil men who have visited the well believe this wildcat will be good for several hundred barrels when drilled deeper or shot as many streaks of sandy lime have been encountered from 3,600 feet down, all of which have carried oil. The new pay is a sand carrying but little lime. A gas separator will be installed immediately as a large percentage of the oil is being blown away with the gas.

To the west of the Maljamar the Skelly Oil Co. is ready to spud its No. 1 in the NE cor. Section 22-17-31, this being 5 miles due west of the Maljamar. Bruce Sullivan, of the Sullivan Refineries, is moving tools to his location in the SE cor. Section 1-18-31, this well to be started by the end of the month. Mr. Sullivan has also made two other locations, one in Section 8-17-31 and the other in Section 8-18-31. R. A. Shugart has closed a contract for a well in the SE of the SW, Section 1-17-31, this to be a deep test. A mile to the east the Ohio Oil Co. is drilling a 15½-inch validating hole in the NE cor., Section 12-17-31. The showing of the Maljamar is expected to hasten the drilling of these tests. On the caprock Inglefield and others have succeeded in casing off the quicksand and are now drilling at a depth of 350 feet. This well is in Section 4-17-34, about 12 miles east of the producer. In Section 33-17-30, casing is being set in the Wooley & Jones' No. 1 Beeson well at a depth of 2,400 feet. In the southern part of Lea County the Covert test in Section 15-21-33, has installed a new set of bull wheels and is drilling at 900 feet.

In the Artesia Pool Wade & Bujac are making a well of their No. 1 Goodale in Section 19-18-28, which picked up a sand at a depth of 2,090 feet. The hole is standing 500 feet in oil and should make a good producer as considerable gas was picked up at a depth of 1,490 feet. The making of a well on this location came as a surprise to many as it had a number of dry holes drilled around it.

Flynn-Welch & Yates are completing another producer in Section 21-18-28, their No. 4 Keyes which picked up the regular 2,100-foot sand.

On the west side of the field the Picher people have completed a very light well in their No. 3 in Section 12-18-27, being due east of the No. 1 producer.

Eddy County

Colorado Drilling Co.'s No. 1 Irvin in Section 8-16-27, to resume drilling; company reorganized; Compton's No. 2 Mann permit, in Section 3-18-27, drilling below 1,275 feet; Cook-Ironsides' No. 1, Section 1-20-29, drilling below 900 feet; Decum Development Co.'s No. 1 Vandagriff permit in Section 5-17-28, drilling at 2,150 feet; Empire Gas & Fuel in Section 35-17-27, drilling 1,500 feet; Flynn-Welch & Yates' No. 45 in Section 21-18-28 on production; No. 4 Keyes, Section 21-18-28, drilling in; No. 46 in Section 28-18-28, drilling; No. 47, in Section 28-18-28, swabbing and drilling; No. 48 in Section 21-18-28, drilling below 1,100 feet; H. F. Hall and others' No. 1 Section 27-13-31, location; Hasenfuss & Donley's No. 2, in Section 13-18-27, drilling at 1,850 feet; Harris & Rehn's No. 1 Winans in Section 15-18-26, drilling at 860 feet; Hamilton Petroleum Co.'s No. 1, Section 12-19-26, drilling below 500 feet; Henderson-Dexter & Blair's No. 1, Section 9-19-28, location; Ohio Oil Co.'s No. 2 New States, Section 8-18-28, drilling 750 feet; No. 1, in Section 12-17-31, drilling 15½-inch validation hole; Picher Oil Co.'s No. 3, in Section 12-18-27, cleaning out after shot.. Phillips & Welch's No. 1 in Section 35-17-28, drilling 840 feet; Swartz Compton & Eaton's No. 1 Brainard permit in Section 5-18-27, shut down at 1,595 feet, is to resume drilling; Sun Oil Co.'s No. 1 in Section 21-25-30, drilling; Skelly Oil Co.'s No. 1 in Section 22-17-31, ready to spud; Sullivan & Shugarts' No. 1, in Section 1-17-31, location; Bruce Sullivan's No. 1, in Section 8-18-31, location; Bruce Sullivan's No. 1 in NE cor. of Section 8-17-31, location; Bruce Sullivan's No. 1, in SW cor. Section 1-18-31, moving tools to location; Twin Lakes' No. 8, Section 28-18-28, fishing for bit at 2,612 feet; The Texas Company's No. 5 in Section 8-18-28, on production; The Texas Company's No. 5 Bobb permit in Section 17-17-28, abandoned at 2,500 feet; Wade & Bujac's No. 1 Goodale Permit in Section

(Continued on Page 110)

A cracking process limited to select light charging stock is like a car with only a high speed—a hard climb either makes it stop or back down, and backing down costs money

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Tonkawa Field Brings Up Production

Oklahoma's Output Brought Back 3,760 Bbls. by the Two Good Wells in Township 25-1w. Important Hunton Lime Development in Seminole

By J. L. Dwyer
Staff Correspondent, Oklahoma Fields

The choking down of the Gypsy Oil Co.'s new well in the Tonkawa district, and the discovery of a huge body of Hunton lime in Seminole County were the only objects to command the optics of the Oklahoma oil fraternity this week.

The Gypsy Oil Co.'s No. 1 Gardner, SE cor. NE SW, Section 28-25-1w, Kay County, recorded last week, has been choked down with practically no change in the amount of water which it produces. The well was making 8,500 bbls. of oil and 900 bbls. of water before the choke was placed on the line, and since that process has been installed it is averaging about 5,700 bbls. of oil and 850 bbls. of water.

At first there was no choke bean installed in the line, and the flow was regulated at the separator, but as this is written the bean is being installed. A back pressure of 125 pounds is being maintained on the well in an effort to prevent the further intrusion of the salt water. There have been no additional locations made around the well this week. The Texas Company's well, SW cor. NE, Section 28-25-1w, is maintaining a flow of 1,750 bbls. daily.

The Sinclair Oil & Gas Co.'s No. 1 Warrior, NW cor. NW, Section 17-9-7, Seminole County, has uncovered a healthy body of Hunton lime. This formation, when previously discovered has always had a very limited thickness, but the Sinclair well had drilled it 105 feet and was still drilling in lime. There is a good showing of oil, but the hole filled with water. Top of the Hunton was found at 4,040 feet and the recorded depth thus far is 4,145 feet. There was a break at 4,093-95 feet. This find is regarded as very important to the region.

The Seminole Pool in Section 24-9-6 is growing. The discovery well, Indian Territory Illuminating Oil Co.'s No. 1, NW cor. SE, Section 24-9-6, is making 346 bbls. The Barnsdall Oil Co.'s No. 1, SE cor. NW, Section 24-9-6, a diagonal offset to the discovery well, is the largest well in the pool, and is making 1,304 bbls. The Gypsy Oil Co.'s No. 1, SE cor. NW NW, Section 24-9-6, had a showing of oil which rose 500 feet in the hole from sand 3,398-3,423 feet.

The Wewoka Deep Sand Pool is making 24,137 bbls. from 17 wells. This is a slight increase in production with no new wells. Southeast of the pool, the Magnolia Petroleum Co.'s No. 1, NW cor. NE NE, Section 8-7-8, is drilling in lime at 4,320 feet with a hole full of water.

The North Braman and South Braman fields offer news in Wilcox sand activities. Water has appeared in the Wilcox at South Braman for the first time in the Comar Oil Co.'s No. 3 Betchel, the only Wilcox sand well in the pool. It averaged 625 bbls. of oil and 55 bbls. of water for the past week. In the North Braman Field, the Comar Oil Co.'s No. 7 Pribboth, a Wilcox sand well, in Section 21-29-1w, averaged 1,220 bbls. of oil and has never shown water.

In southern Oklahoma, the Seay Pool in Jefferson County, has another completion which extends the pool a half mile to the northwest. It is A. C. Brown's No. 6 Seay, NE cor. NW SE, Section 33-6s-5w, which is making 130 bbls. on the swab from sand at 1,335-50 feet.

In Okfuskee County, near Okemah, E. L. Robinson and others have a well in a stray sand in No. 1 Severs, NE cor. NW SE, Section 35-11-9, which made 100 bbls. in 12 hours. The pipe will be lowered before this well will be drilled any deeper.

The average daily production of Oklahoma fields for the week ending Saturday was 462,350 bbls., an increase over the average of the week before of 3,760 bbls. As the Tonkawa Field alone increased 6,980 bbls. it will be seen that the two wells of the Gypsy Oil Co. and The Texas Company in Township 25-1w, were responsible for any increase shown by the State, as a production slump was noticeable in the combined other districts.

PRODUCTION OF NOTEWORTHY POOLS

Average Daily Output Week Ending June 24

	No. Wells	Av. Dy. Prod. Bbls.
Tonkawa deep sand	122	30,674
Otoe	27	3,096
Thomas	20	2,793
Hubbard	35	1,891
North Braman	45	2,785
South Braman	22	10,461
Yeager	15	691
Holdenville	9	73
South Weleetka	46	1,400
Seminole	7	3,795

Deep Sand Production in the Garber Field

Company and lease:	No. of Wells	Dy. Prod. Oil Bbls.	Water Bbls.
Carter Oil Co.:			
Dively lease	2	99	75
D. W. Franchot:			
Lynds lease	1	72	40
Healdton Oil & Gas Co.:			
Belveal lease	2	24	85
Marland Oil Co. and Mid-Cont. Pet. Corp.:			
School land lease	14	2,211	1,000
Prairie Oil & Gas Co.:			
Widhard lease	2	40	0
Roxana Pet. Corp.:			
Schroeder lease	27	11,355	3,500
Wolf	1	126	350
Sinclair Oil & Gas Co.:			
Belveal lease	5	157	210
Denker lease	2	78	20
Hartley lease	16	6,397	9,500
Kisner lease	8	4,620	1,600
Shaffer lease	1	30	2
Walker lease	23	5,903	5,000
Prairie Oil & Gas Co.	2	40	0
Franchot	1	72	40
Carter	2	99	75
Healdton	2	24	85
Marland-Mid-Cont.	14	2,211	1,000
Roxana Pet. Corp.	28	11,481	3,850
Sinclair Oil & Gas Co.	55	17,185	16,323
Total	104	31,112	21,382

Ingalls Pool

	No. Wells	Prod. Bbls.
Prairie Oil & Gas Co.	7	3,885
Roxana Pet. Corp.	2	2,343
Magnolia Pet. Co.	1	5
Total	10	6,233

Skelly Ford Pool

Carter Oil Co.	3	161
Skelly Oil Co.	5	296
Prairie Oil & Gas Co.	1	6
Independent Oil & Gas Co.	2	32
Phillips Pet. Co.	2	680
Gypsy Oil Co.	1	5
Mid-Cont. Pet. Corp.	7	1,897
Total	21	3,077

Burbank

Carter Oil Co.	282	5,412
Comar Oil Co.	7	95
Mid-Cont. Pet. Corp.	106	1,103
Devonian Oil Co.	16	118
Gypsy Oil Co.	193	2,528
Kewanee Oil Co.	26	211
Laurel Oil & Gas Co.	16	142
Lewis Oil Co.	19	1,061
Lorraine Pet. Corp.	15	83
Midland Oil Co.	37	517
Mid-Kansas Oil Co.	45	1,051
Peters-Oliphant	4	775
Phillips Petroleum Co.	205	13,309
Delmar Oil Co.	16	736
Phillips-Skelly	180	2,214
Prairie Oil & Gas Co.	127	3,013
Roxana Pet. Corp.	54	463
Seamans and others	1	7
Simons-Moore	29	207
Sinclair Oil & Gas Co.	144	1,291
Skelly Oil Co.	31	1,606
Tidal-Osage Oil Co.	42	470
The Texas Company	16	238
Twin State Oil Co.	24	325
Total	1,665	37,221

Davenport Pool

Magnolia Petroleum Co.	61	2,452
Gypsy Oil Co.	22	2,045
Phillips Petroleum Co.	6	560
Pure Oil Co.	7	325
Selby Oil and Southwestern Oil Co.	12	450
Carter Oil Co.	8	79
Skelly Oil Co.	8	313
The Texas Company	21	1,272
Twin State Oil Co.	9	302
Sinclair O. & G. Co.	1	47
Amerada Petroleum Corp.	11	590
Shaffer Oil & Ref. Co.	5	130
Prairie Oil & Gas Co.	23	945
Southwestern Pet. Co.	4	218
Total	198	9,728

Wewoka Deep Sand Output

Homaokla Oil Co.	2	461
Magnolia Petroleum Co.	6	10,288
Dixie Oil Co.	1	608
Amerada Pet. Co. cor. 2 wells	2	6,235
W. R. Ramsey	2	928
Independent-Atlantic	1	928
Prairie Oil & Gas Co.	1	2,109
Total	15	21,552

Deep Rock Pool

Deep Rock Oil Co.	16	861
Shaffer Oil Co.	5	1,291
Pure Oil Co.	2	209
M. T. C. Oil Co.	2	65
Amerada Petroleum Co.	4	415
Mulberry Oil Co.	3	350
Empire Gas & Fuel Co.	1	348
Texas Pacific Coal & Oil Co.	2	137
Total	36	3,676

Hughes County

Mid-Continent Petroleum Corp.'s No. 1, NW cor. SW NW, Section 13-8-9, Hughes County, is an abandoned location. McCulloch Oil Co. has abandoned the location for No. 1 Carter, SE cor. NE NW, Section 1-8-10. Robinson & Letcher have rigged up No. 1, SE cor. NW, Section 17-8-10. E. R. Black and others have a rig up for No. 1, NE cor. NW SE, Section 21-8-10. Tidal Oil Co. has spudded No. 6, NE cor. SW SW, Section 3-9-11.

Independent Oil & Gas Co. and the Transcontinental Oil Co.'s No. 4, NW cor. SW SW, Section 26-9-9, had sand at 3,337-64 feet and made 60 bbls. after a shot of 10 quarts. A shallow sand was found at 795-815 feet with 10,000,000 feet of gas. Independent Oil & Gas Co.'s No. 1, NW cor. NE NE, Section 25-8-9, is dry and abandoned at 3,750 feet. Magnolia Petroleum Co.'s No. 1, NW cor. NW SW, Section 28-8-9, is drilling at 450 feet. Robinson & Letcher have spudded No. 1, SE cor. NW, Section 17-8-10. E. R. Black and others are drilling at 750 feet in No. 1, NE cor. NW SE, Section 21-8-10. Hart & O'Loughlin have a rig up for No. 1, NE cor. NW SE, Section 4-8-11.

Lincoln County

Flynn, Morgan & Young have a dry hole at 4,312 feet in No. 1, NW cor. SE, Section 26-16-5. Supreme Petroleum Co. has abandoned No. 1, NE cor. NW, Section 36-15-4, at 4,720 feet. Magnolia Petroleum Co.'s No. 1, SE cor. NW, Section 10-14-5, is drilling at 790 feet; No. 2, NW cor. SE SW, Section 3-14-5, had sand at 3,443-75 feet and made 10 bbls. naturally; it was shot with 40 and with 130 quarts and made 50 bbls. Prairie Oil & Gas Co.'s No. 22 Stout, CSL NW, Section 3-14-15, had sand at 2,633-48 feet, and made 15 bbls. after a shot of 30 quarts. Magnolia Petroleum Co.'s No. 4, SW cor. SE NE, Section 4-14-5, had sand at 3,512-20 feet and made 10 bbls. after a shot of 30 quarts. No. 2, NW cor. NE SE, Section 10-14-5, had sand at 3,405-21 feet and made 100 bbls. naturally. It made 115 bbls. after a shot of 40 quarts. Southwestern Petroleum Co. has spudded No. 4, NW cor. SW NE, Section 11-14-5. The Texas Company's No. 1, NW cor. NE NE, Section 11-14-5, had sand at 3,406-38 feet and swabbed 55 bbls. It was shot with 60 quarts and then made 20 bbls. Southwestern Petroleum Co.'s No. 1, SE cor. NE, Section 21-14-5, is completed for 95 bbls., after a shot of 40 quarts in sand at 3,946-73 feet.

Tulsa County

Sand Springs Home's No. 2 Burgess, SW cor. NW, Section 24-19-11, is spudded. Sunray Oil & Gas Co.'s No. 1-A, CWL SW NE, Section 21-19-12, is drilling at 750 feet. Underwood and others have spudded and shut down in No. 2-A Brown, CEL SE NW, Section 30-19-12.

Cooper and others have a dry hole at 1,500 feet in No. 1, NW cor. NE NE, Section 36-17-13. The Texas Company is cleaning out to drill deeper in No. 6 Stewart, SE cor. NW NW, Section 4-16-13. Superior Oil Co. has a dry hole in No. 5, SE cor. SE, Section 6-16-13, at 2,234 feet. Little and others have rigged up No. 15, NE cor. NW SW, Section 2-16-14.

J. W. Shreve and others have rigged up a machine for No. 12 Orcutt, CEL NE NE, Section 33-19-13. F. A. Best has a dry hole at 1,540 feet in No. 1, SW cor. NE NW, Section 33-18-14. Deadman and others' No. 2 Truster, SE cor. SW SW, Section 34-18-14, is dry at 2,099 feet. H. C. Deems' No. 2 Sarty, NE cor. SW SW, Section 31-18-15.

Pettitt and others' No. 2 Perryman, NE cor. NW, Section 9-17-14, had sand at 1,470-1,511 feet and made 30 bbls. after a shot of 10 quarts. It is being swabbed. Franchot and Mid-Continent Petroleum Corp.'s No. 7, NW cor. NE SW, Section 22-17-13, had sand at 1,611-43 feet and made 15 bbls. after a shot of 40 quarts.

Okmulgee County

Baker and others have a rig up for No. 1 Squire, CNL NW, Section 26-16-12, in Okmulgee County. W. B. Pine's No. 2, SW cor. SW, Section 11-12-13, is dry at 2,843 feet. Nicholson corporation's No. 5, CNL NE SE, Section 13-11-13, had sand at 1,235-45 feet and is shut in with 300,000 feet of gas. Turner & Turner's No. 4 Penoka, NW cor. SW SW, Section 9-16-12, is a new rig.

Okfuskee County

Champlin Refining Co.'s No. 7, SW cor. NW NE, Section 22-11-11, had sand at 2,655-63 feet and made 50 bbls. No. 1, SE cor. SW NW, Section 23-11-11, is drilling at 750 feet. Carter Oil Co. has built a rig for No. 1 Likowski, SW cor. SE NW, Section 23-11-11.

Josey Oil Co.'s No. 13 McCoy, SE cor. SW NW, Section 33-12-11, is a new rig; No. 14 McCoy, SW cor. NW SW, Section 33-12-11, had sand at 3,620-29 feet with 300 feet of oil in the hole.

Fred Davis is shut down at 2,600 feet in No. 1, CNL NE SW, Section 16-10-5, Pottawatomie County.

Garfield County

Sinclair Oil & Gas Co. has built the rig for No. 63 Walker, NE cor. NE, Section 13-22-4w, Garfield County. Roxana Petroleum Corp. has rig up for No. 10-T Schroeder, CNL SW, Section 18-22-3w. Sinclair Oil & Gas Co. has started drilling No. 34 Kisner, NW cor. NW, Section 19-22-3w. The rig is built for No. 35 Kisner, NE cor. NW NW, Section 19-22-3w. Crews Heirs Oil Co. is drilling at 950 feet in No. 19 Crews, SE cor. NW SE, Section 19-22-3w. Knox Oil Co. has a rig up for No. 4 Berbohn, NW cor. SW, Section 31-22-3w.

T. B. Slick is shut down at 150 feet in No. 1, SW cor. SE, Section 28-17-1, Logan County.

Kay County

Marland Oil Co.'s No. 6 Morton, NE cor. NE, Section 12-26-2w, is spudded. The Texas Company's No. 3 Siler, SW cor. SE NE, Section 28-25-1w, is being rigged up; No. 4 Siler, SE cor. SW NE, Section 28-25-1w, is rigging up. Wentz Oil Corp. has rigs up for the following wells: No. 11 Mahoney, NW cor. SE, Section 28-25-1w; No. 12, NE cor. NW SE, Section 28-25-1w; No. 13, NW cor. NE SE, Section 28-25-1w.

Barnsdall Oil Co. has built a rig for No. 1, SE cor. NW, Section 28-25-1w, and made a location for No. 3, SW cor. SE NW, Section 28-25-1w. Wentz Oil Corp. has spudded No. 11, NW cor. SE, Section 28-25-1w, and the rig is built and tools are being moved in for No. 14, SW cor. NW SE, Section 28-25-1w, and also for No. 15, NW cor. SW SE, Section 28-25-1w. Skelly Oil Co. and others have a rig on the ground for No. 1-A, SE cor. SW, Section 28-25-1w, and the

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NATIONAL PIGMENTS & CHEMICAL CO.
ST. LOUIS, MO.

rig is built for No. 1, NE cor. SE SW, Section 28-25-1w.

A. D. Morton and others have moved in a rig for No. 1 Teethley, NW cor. SE, Section 21-26-1. Marland Oil Co. is drilling at 750 feet in No. 10-A Arrow, SE cor. NW NE, Section 17-25-2.

Harris & Haun have built a rig for No. 1 Henzel, SW cor. SW, Section 15-29-1w. Comar Oil Co. has spudded No. 1, SW cor. SE, Section 16-29-1w. The Texas Company is drilling at 650 feet in No. 1-A, SE cor. NE, Section 20-29-1w. Comar Oil Co.'s No. 7, NW cor. SE SW, Section 5-28-1w, is drilling at 750 feet. The rig is up for the same company's No. 2 Corn, NE cor. NW, Section 8-28-1w; No. 4, SW cor. NE NW, Section 8-28-1w, had sand at 2,400-2,401 feet and is estimated at 70 bbls. This is a stray sand.

Globe refining Co.'s No. 1, SE cor. SE, Section 8-27-1w, had sand at 3,478-90 feet and is estimated at 12,000,000 feet of gas. Blackwell Oil & Gas Co.'s No. 7, NW cor. NE NE, Section 9-27-1w, had sand at 3,444-50 feet with 500,000 feet of gas and 75 bbls. of oil. Harold Petroleum Co. has the rig up for No. 4 Burkhalter, SE cor. NE NW, Section 9-27-1w. Harris & Haun have a gas well in No. 3, C SE SW, Section 9-27-1w. Sand was at 3,432-35 feet and the well is shut in with 20,000,000 feet of gas. The Carter Oil Co.'s No. 3, SE cor. NE. Section 17-27-1w, had sand at 3,446-66 feet with 29,000,000 of gas. Marland Oil Co.'s No. 2 Galer, NE cor. SW, Section 19-27-1w, is rigging up. Prairie Oil & Gas Co. has a rig on the ground for No. 1 Hargroves, SW cor. NE, Section 19-27-1w. Marland Oil Co.'s No. 2-A, NW cor. NE, Section 12-26-2w, had sand at 3,745-49 feet and flowed 85 bbls.

Osage County

Prairie Oil & Gas Co. has spudded No. 1, SE cor. NE, Section 2-25-6, Osage County. The rig is on the ground for No. 1, SE cor. NE, Section 10-27-6. Phillips Petroleum Co. is drilling at 1,650 feet in No. 4, SE cor. NE NW, Section 1-27-5. No. 8, NE cor. NE NW, Section 1-27-5, is drilling at 980 feet. The rig is on the ground for No. 10, SE cor. NW SW, Section 1-27-5. No. 1, SW cor. NE. Section 2-27-5, had sand at 2,895-2,937 feet and made 1,320 bbls. naturally; No. 3, SW cor. SE NE, Section 2-27-5, is drilling at 1,540 feet; No. 4, SE cor. NE. Section 2-27-5, is dry and abandoned at 3,447 feet. Skelly Oil Co.'s No. 2, NE cor. SE NW, Section 2,27-5, is drilling at 1,650 feet. Phillips Petroleum Co. has the rig on the ground for No. 11, SW cor. NE NE, Section 12-27-5. No. 15, NW cor. NE NE, Section 12-27-5, is drilling at 1,450 feet. The rig is up for No. 6, NE cor. SW SW, Section 7-27-6; and the rig is on the ground for No. 10, SE cor. NW SW, Section 7-27-6. No. 15, NW cor. NE SW, Section 7-27-6, is drilling at 780 feet. No. 16, NE cor. SW, Section 7-27-6, is drilling at 980 feet. No. 4, SE cor. SE Section 7-27-6, had sand at 2,936-97 feet and made 258 bbls. naturally. It was shot with 120 quarts and made 768 bbls. No. 7, NW cor. SE SE, Section 7-27-6, is spudded. Peters Petroleum Co. and the Plains Oil Co.'s No. 4, SW cor. NW NW, Section 17-27-6, had sand at 2,927-75 feet and made 513 bbls. Barnsdall Oil Co.'s No. 1, NE cor. SW, Section 6-26-5, is drilling at 1,800 feet. The Carter Oil Co.'s No. 9, SE cor. NW, Section 9-26-6, had the Wilcox sand at 3,229-50 feet and made 52 bbls. Phillips Petroleum Co.'s No. 14. NE cor. NW SE, Section 20-26-6, is drilling at 2,100 feet; No. 8, NE cor. SE SW, Section 21-26-6, is drilling at 1,645 feet; No. 9, SW cor. NW SW, Section 21-26-6, is drilling at 850 feet; No. 11, SW cor. NE SW, Section 21-26-6, is drilling at 700 feet; No. 12, SE cor. NE SW, Section 21-26-6, is drilling at 2,450 feet. Lewis Oil Co.'s No. 4, NW cor. SE NE, Section 21-26-6, had sand at 2,890-2,942 feet and made 400 bbls. naturally; No. 6, NW cor. SW SE, Section 21-26-6, is drilling at 1,900 feet.

In the Fairfax area the Prairie Oil & Gas Co.'s No. 6, NE cor. SW SE, Section 21-25-6, had sand at 2,675-2,716 feet and made 110 bbls. after a shot of 50 quarts; No. 7, SE cor. SE, Section 21-25-6, had sand at 2,698-2,725 feet and made 185 bbls. haturally. No. 8, NE cor. SE SE, Section 21-25-6, is drilling at 750 feet. No. 9, NW cor. SE SE, Section 21-25-6, is rigged up. Phillips Petroleum Co.'s No. 3, NW cor. NE NE, Section 28-25-6, had sand at 2,706-16 feet and made 300 bbls. after a shot of 40 quarts. No. 4, NE cor. NE, Section 28-25-6, is spudded. Marland Oil Co.'s No. 1, SE cor. NW, Section 33-20-5, had sand at 3,691-3,737 feet and made 240 bbls. naturally. It was shot with 80 quarts and made 425 bbls.

Creek County

Riverland Oil Co. has a rig up for No. 3 Land, C NW, Section 1-18-11, Creek County. Gray Oil Co. has spudded No. 3 Leader, C NE NE, Section 3-18-11. O. M. Ireland has a machine in for No. 7 Friedman, CEL SW SE, Section 8-17-11. Transcontinental Oil Co. is drilling at 750 feet in No. 4. NE cor. SW NE. Section 28-17-11. W. J. Sherry and others have spudded No. 1, SW cor. NE SE, Section 20-16-11. Sheridan Oil & Gas Co. has a rig up for No. 1-A Woods, SW cor. SE, Section 21-16-11. Gray Oil Co. and others have rigged up No. 1-A, NW cor. NE, Section 26-16-11. McCulloch Oil Co. has spudded No. 1, NW cor. NE SE, Section 17-16-12.

McLean and others' No. 1 Bruner, NE cor. NW NE, Section 18-18-11, is shut down for casing at 2,275 feet. Alvord & West and others have a rig on the ground for No. 1 Tucker, SE cor. SW SW, Section 14-17-8. Savoy Oil Co.'s No. 5, C NW SE, Section 22-17-8, had sand at 2,340-73 feet and made 25 bbls. after a shot of 50 quarts. Inter-Ocean Oil Co. and the McCulloch Oil Co.'s No. 4, SW cor. NE NE, Section 27-17-8, had sand at 2,795-2,827 feet and made 200 bbls. naturally initially. It is now flowing 85 bbls. The rig is built for No. 5 Bigpond, CWL NE NE, Section 27-17-8. Southwestern Petroleum Co.'s No. 2, NW cor. NE, Section 27-17-8, had sand at 3,123-31 feet and made 7 bbls. naturally. It made 20 bbls. after a shot of 20 quarts. D. B. Mann and others have a rig up for No. 5 Broadnax, SW cor. SE, NW, Section 23-16-8. Prairie Oil & Gas Co.'s No. 2, NE cor. SE SW, Section 3-17-9, had sand at 2,010-40 feet and made 75 bbls. naturally in the first 14 hours. It made 115 bbls. after a shot of 60 quarts. A machine is in for No. 3 Hope, SW cor. SE SW, Section 3-17-9.

The Texas Company has a machine in for No. 2 Simmons, NW cor. SW SE, Section 3-17-9. No. 3 Simmons, SE cor. SW SE, Section 3-17-9, is rigging up. Texas Pacific Coal & Oil Co.'s No. 1, NE cor. SE, Section 21-17-9, had sand at 2,430-85 feet and made 75 bbls. after a shot of 80 quarts. Wood & Farren are drilling at 750 feet in No. 4, NW cor. SE, Section 21-17-9. Prairie Oil & Gas Co.'s No. 7, SE cor. NW SW, Section 22-17-9, is drilling at 700 feet. O. M. Ireland has spudded No. 1, NE cor. NW SW, Section 11-17-10. Wilcox & Whitten have spudded No. 2, SW cor. SE NW, Section 11-17-10. J. H. Wright's No. 5, NE cor. SE NW, Section 24-17-10, had sand at 2,402-24 feet and made 2,040 bbls. naturally. No. 8, SE cor. NW, Section 24-17-10, made 400 bbls. naturally from sand at 2,445-96 feet. Pioneer Petroleum Co.'s No. 6, SW cor. NE, Section 24-17-10, had sand at 2,437-62 feet and made 2,400 bbls.; No. 7, SW cor. NW NE, Section 24-17-10, is spudded; No. 8, CSL SW NE, Section 24-17-10, is spudded. J. H. Wright has spudded No. 12, NE cor. SW, Section 24-17-10.

J. H. Wright's No. 1, NW cor. SE, Section 24-17-10, had sand at 2,470-95 feet and made 3,500 bbls. naturally at first. It is now making 1,400 bbls.; No. 10, NE cor. SW SE, Section 24-17-10, is rigging up. O. M. Ireland has rigged up No. 1-A Goody, C S half NE NW, Section 25-17-10. Independent Oil & Gas Co.'s No. 1, NW cor. NE NW, Section 30-17-10, had sand at 2,092-2,120 feet and made 15 bbls. after a shot of 100 quarts. R. S. Jennings has rigged up No. 1 Tiger, NW cor. SE, Section 36-15-7. C. G. Tibbens has spudded No. 1, SE cor. SE, Section 22-15-8. United Central Oil Co.'s No. 2, SE cor. SW NE, Section 2-14-8, is spudded. Prairie Oil & Gas Co. has spudded No. 4, NE cor. NE, Section 11-14-8. C. G. Tibbens' No. 11, CWL NW SE, Section 26-14-8, is drilling at 950 feet. No. 28, C NW SE, Section 30-15-9, had sand at 3,034-39 feet and made 840 bbls. naturally. The rig is built for No. 30 Connetsenne, SE cor. SW NE, Section 30-15-9. No. 1-A, CEL NW SW, Section 30-15-9, had sand at 2,278-2,327 feet and made 5 bbls. after a shot of 120 quarts. No. 3, SE cor. SW SW, Section 30-15-9, is spudded.

T. B. Slick is drilling at 350 feet in No. 2, NE cor. NW NE, Section 20-14-10. M. P. Evans has rigged up No. 1 Harjo, SE cor. SW, Section 25-14-10. Mann & Bartlett's No. 2, CEL SE NW, Section 5-19-8, had sand at 1,996-2,018 feet and made 60 bbls. after a shot of 40 quarts. Gled Oil Co.'s No. 4, NE cor. SE SW, Section 13-19-8, is spudded. No. 4, SE cor. NW NW, Section 13-19-8, is abandoned at 1,200 feet. The Texas Company has the rig on the ground for No. 2 Ross, NW cor. SW SE, Section 13-19-8. Burnett and others' No. 2 Jack, CWL SE NW, Section 1-18-7, an old well drilled deeper, had sand at 3,022-27 feet and made 85 bbls. naturally. Red Fork Oil Co.'s No. 1-A, NW cor. NE SW, Section 23-19-10, is abandoned at 1,920 feet.

Carter County

Amerada Petroleum Corp. is drilling at 560 feet in No. 25, CSL SW SE, Section 20-5s-1, Carter County. Magnolia Petroleum Co.'s No. 2, SE cor. NE SE. Section 33-1s-3w, had sand at 1,970-82 feet and is estimated at 15,000,000 feet; the rig is on the ground for No. 5 Bumpass, SW cor. NE SE, Section 33-1s-3w. Humble Oil Co.'s No. 2, SW cor. SW, Section 34-1s-3w, had broken sand at 2,251-64 feet with 20,000,000 feet of gas. No. 3, NW cor. SW SW, Section 34-1s-3w, topped gas sand at 2,017 feet with 25,000,000 feet of gas. Magnolia Petroleum Co. has built the rig for No. 3 McClish, SE cor. NW SW, Section 34-1s-3w. Prairie Oil & Gas Co. and others are drilling at 1,350 feet in No. 3, NE cor. SE NW, Section 3-2s-3w. Magnolia Petroleum Co.'s No. 1, SW cor. NW, Section 15-2s-2w, pumped 65 bbls. from sand at 1,132-56 feet. No. 2, NW cor. SW, Section 15-2s-2w, had sand at 1,045-64 feet, and pumped 30 bbls. No. 2, NE cor. SE, Section 16-2s-2w, had broken sand at 1,208-11 feet and pumped 30 bbls. Humble Oil Co.'s No. 1, NW cor. SW, Section 17-2s-2w, is drilling at 450 feet.

Payne County

Gardner Petroleum Co. and the Twin State Oil Co. have a rig on the ground for No. 1 Tieber, NE cor. NW NE, Section 23-18-1, Payne County.

Mid-Continent Petroleum Corp.'s No. 1, NW cor. SW, Section 3-19-3, is drilling at 1,137 feet. New England Oil & Pipe Line Co. has a rig up for No. 3 Boyles, NE cor. NW, Section 26-18-4. The Pure Oil Co. has rigged up a rotary for No. 2 Muller, SE cor. NW SE, Section 10-19-5. McGill and others' No. 1, SE cor. NW, Section 27-18-6, is abandoned at 3,461 feet.

Pawnee County

Devonian Oil Co. has built a rig for No. 2, NW cor. NE SE, Section 35-22-6, Pawnee County. Magnolia Petroleum Co.'s No. 1, NW cor. SW, Section 2-20-6, had sand at 3,020-41 feet with 7,500,000 feet of gas. Privett Drilling Co. has built the rig for No. 1 Poynter, SE cor. NE SE ,Section 10-20-6. Glenn Oil Co.'s No. 5, SE cor. SE, Section 16-20-6. Marland Oil Co. and others have built the rig for No. 21 School Land, NW cor. NE SW, Section 16-20-7. Smith and others have rigged up No. 1 Adams, NE cor.

(Continued on Page 116)

WINFIELD WELL REVIVES KANSAS; IS MAKING 32 BARRELS HOURLY

By J. L. Dwyer
Staff Correspondent, Kansas Fields

The fields of Kansas were brought out of their state of apathy by a well northwest of the old Winfield Pool in Cowley County. The new find will give the needed stimulus to drilling and provide work for the many strings of tools which have been idle in this region since the slowing down of the great Rainbow Bend Pool.

The J. A. Hull Co. and the Shaffer Oil & Refining Co. jointly own No. 1 School Land, SW cor. NW SE, Section 15-32-4, the most recent strike in Kansas. It topped a formation which is thought to be the siliceous lime at 3,303 feet and penetrated to 3,309 feet. The well started flowing at the rate of 40 bbls. an hour and as this is written it is making 32 bbls. hourly.

What effect the new well may have upon the adjacent territory is uncertain. There was some deep sand production found by the J. A. Hull Co. in the north end of the old Winfield Pool, but its area was limited and it is very doubtful if anyone but the Hull Co. realized any profit from it. There were several deep dry holes drilled to the north of the old pool.

The new well is located 1 mile directly north of the town of Winfield, Kansas, and is 2 miles northwest of the closest production. The oil has a gravity of 38 degrees, and is being run by the Lubrite Refining Co., and also by the Gypsy Oil Co. which is extending a line 2 miles to connect the new well.

The remaining fields of the State offer the routine news. There is a noticeable slowing down of activities throughout the State with the exception of Lyon County.

Butler County Operations

Connell and others are drilling at 750 feet in No. 2, C south half NE NW, Section 34-25-5, Butler County. Empire Gas & Fuel Co.'s No. 4, SE cor. NW, Section 27-26-7, had sand at 2,157-77 feet and made 40 bbls. after a shot of five quarts. White Eagle Oil Co.'s No. 5, NW cor. SE, Section 27-26-7, had sand at 2,115-36 feet with a 35-bbl. initial production. The Texas Company has a rig up for No. 1 Johnson, SW cor. NE NE, Section 7-27-7. Amerada Petroleum Corp.'s No. 7, NE cor. SW NW, Section 27-27-7, had sand at 2,705-51 feet and made 110 bbls. after a shot of 90 quarts. Stafford and others have spudded No. 8, SE cor. SE, Section 26-27-4. Sinclair Oil & Gas Co. and the Empire Gas & Fuel Co.'s No. 16, SW cor. SE NE, Section 35-27-4, is drilling at 250 feet. Producers Petroleum Co. has the tools in for No. 1-A Holcomb, NE cor. NW NE, Section 7-29-4. J. H. Markham is drilling at 1,450 feet in No. 1, SW cor. NE NE, Section 3-28-6. Eddy Farr and others have abandoned No. 1, SW cor. SE SE, Section 13-28-6, at 2,844 feet. Gled Oil Co. and Gore have spudded No. 2, C NE, Section 28-29-6. Amerada Petroleum Corp. and others have abandoned No. 1, NW cor. SW, Section 3-29-7, at 2,845 feet. White Eagle Oil Co. and others have a dry hole at 2,800 feet in No. 1, NE cor. SW, Section 17-29-7.

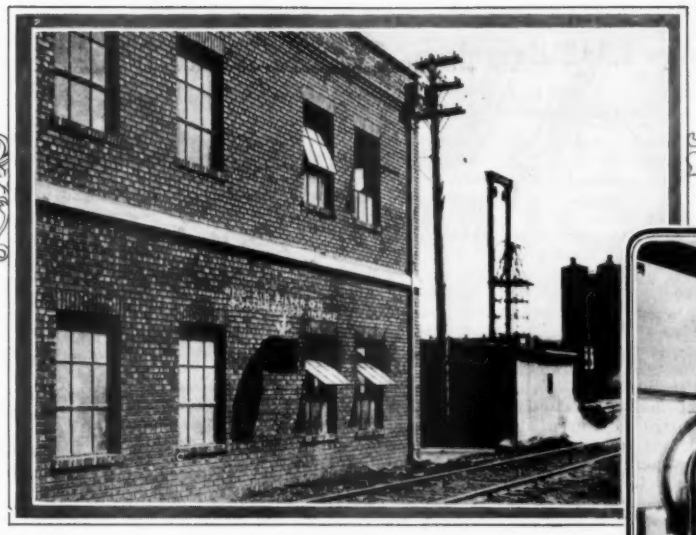
Greenwood County

Mid-Kansas Oil Co.'s No. 3, SE cor. SW SW, Section 36-22-9, Greenwood County, had sand at 2,44-88 feet with water and was plugged back to 2,483 feet and shot with 60 quarts. It is making 125 bbls. Polhamus & Smith have a rig up for No. 1 Leedy, SW cor. NW SE, Section 36-22-9.

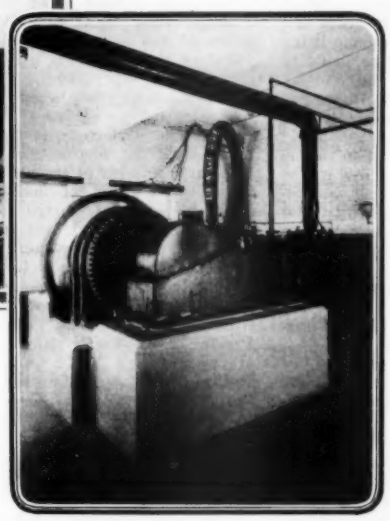
Chase and Lyon Counties

Manhattan Oil Co. and Phillips Petroleum Co. have spudded No. 1, SW cor. SW, Section 1-21-9, Chase County. Sheedy and others' No. 1, NW cor. SE, Section 7-21-10, Lyon County, is dry and abandoned at 2,420 feet. McCulloch Oil Co.'s No. 1, SW cor. SE SW, Section 24-20-10, had sand at 2,320-30 feet and is estimated at 200 bbls. Pryor & Lockhard have spudded No. 1, C NE SW, Section 24-21-10. Theta Oil Co. has spudded No. 3, SE cor. NW, Section 30-21-10. Transcontinental Oil Co.'s No.

(Continued on Page 92)



Photographs showing Reed Air Filters handling air to Worthington Compressor in Utility Building, Marland Refining Co., Ponca City, Okla.



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FORT WORTH, TEXAS

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By L. P. Stockman
Staff Correspondent, California Fields

LOS ANGELES, Calif., June 26.—Production of crude oil in California during May was practically on a par with the output during April, Long Beach and Ventura Avenue being the only two fields to show any appreciable change. Daily production in the former field was down 2,889 bbls., but the output in the latter area, due to the completion of two new wells with an initial output of 6,585 bbls., was up 5,220 bbls. Completions since the close of May indicate that both districts will show an increased production during June with a possibility of Ventura Avenue exceeding 37,000 bbls. per day. Long Beach will probably not show any great change during June but should reflect increased completions in the deep zone during July.

Taken as a whole, the production situation in California is not any too bright but with a continuance of intercoastal and export shipments of crude, fuel oil and refined oils and a normal increase in local consumption, the outlook does not appear disturbing. Tanker liftings during April and May were unusually heavy and this, no doubt, was responsible for the net draft on storage during the period in question. Intercoastal shipments totaled 3,513,715 bbls. during May, 1,897,063 bbls. of crude, 724,060 bbls. of fuel oil and 892,592 bbls. of gasoline leaving Los Angeles Harbor for Atlantic and Gulf Coast ports. Export shipments during May were also heavy, a total of 2,625,097 bbls. of crude, fuel and refined oils leaving California destined for foreign ports. Heavy crude and fuel oil continued to accumulate, the surplus during May amounting to 2,183,885 bbls., bringing the total on hand at the close of the month to 88,475,401 bbls. Operators withdrew 1,349,272 bbls. of light oil, 467,696 bbls. of gasoline and 456,643 bbls. of naphtha distillates from storage during the month. The net change in the total fluid stocks during May was 77,526 bbls., which represents a withdrawal from stocks.

Long Beach

Julian Petroleum, in finishing No. 1 Hughes during the past week, brought in the largest flowing well yet completed in the deep zone in the northwest extension of the Long Beach Field. It came in doing 1,342 bbls. of 22.4 gravity oil from 4,840 feet and exceeded by far the highest expectations of the company. No. 1 McShane-Lackley at 4,815 feet and No. 2 fee, a deepening project which picked up the pay last week, should be on production within a few days as pipe is being run in. No. 1 Pastle, No. 1 Burnham & Green and No. 1 Rappaport, being deepened from the upper to the lower zone, are also expected to go on production within three weeks.

Nathan Hale chalked up a fairly good flowing well when his No. 2 Cerritos was given a test in the deep zone at 4,872 feet, after being finished with a 4½-inch liner, 420 feet of which was shop perforated. It started off flowing 395 bbls. initially of 21.9 gravity oil and, although the production is cutting approximately 8 per cent, it will probably clean up after the well has been on production a few days. Hale passed up the higher sand and the successful completion of this well in the deep zone has resulted in a decision to deepen No. 1 Cerritos, at present a small pumper in the upper horizon. A. J. Delaney's No. 16 Cerritos, which ran into bottom water in the deep zone a few weeks go at 4,865 feet, is still held up and, judging by the cut, 30 per cent, it does not look as though the plug set at 4,810 feet has proven effective. A pumping test showed it to be good for 160 bbls. of fluid daily.

To Deepen More Wells

Some 8 or 10 additional wells were taken off the beam during the week preparatory to being deepened from the upper to the lower zone. The decision to deepen in many cases is not due primarily to any desire to secure a larger production, although of course this is an important factor but is practically obligatory, as a large number of the upper zone wells have ceased to be commercial producers. John Abrams has started to deepen his No. 1 Cerritos and the bit will be started downward as soon as the 4½-inch liner is recovered. Barham & Leeper are also fishing for a liner and as soon as it is recovered, No. 1 Cerritos, now at 4,445 feet, will be deepened. Featherstone & Preston's No. 10 Cerritos at 4,537 feet, Harry Failing's No. 1 Cerritos at 4,582 feet, the Ibbetson Petroleum Co.'s No. 6 Cerritos at 4,437 feet, Keck & McWhorter's No. 2 Cerritos at 4,450 feet and E. J. Miley's No. 2 Cerritos at 4,444 feet were taken off the beam during the week and preparations made to carry them down to the lower horizon.

George W. Johnson will begin swabbing his No. 3 Cerritos, a deepened well, for production tomorrow and the outlook at 4,850 feet is quite promising for a good well. The Pugh-Miller Drilling Co., as the result of a deal closed a few days ago, is taking over the properties and equipment of the Lindauer Oil Co., which has 10 producers in the northwest extension, and it is likely the Pugh-Miller Co. will undertake to deepen several of the upper zone producers acquired. California Petroleum has just about reached the 5,000-foot level in No. 1 Bixby, an outpost due east of the northwest extension, and the possibility of developing commercial production is rather discouraging. General Petroleum is making fairly good footage at 3,135 feet in No. 7 K. & H. in the older section of the field and it will probably be listed for completion during the next 60 days.

Rosecrans

The Barnsdall Oil Co.'s No. 7 Rosecrans, in the Rosecrans Field, is making a little better than 3,500,000 feet of saturated gas after being redrilled and deepened to 5,726 feet and, although about 400 bbls. of fluid is accompanying the gas, only about 60 per cent of it is oil. The well is flowing through a ¾-inch bean under a pressure of 800 pounds and it is possible the production of oil will increase after the gas volume declines. The Barnsdall got a wet job on No. 12 O'Dea at 4,122 feet and it will be recemented. McBride & Bremmer cleaned out and recompleted their No. 1 Athens and it has just been put on the pump good for 80 bbls. of 32.1 gravity oil from 5,045 feet.

The limited amount of drilling being done in the Inglewood Field is being reflected in a smaller output and, although the decline during the past few months has been comparatively slight, the field has not by any means reached the settled stage. The daily production in this district during May of 51,252 bbls. was only 538 bbls. less than the daily output during April and, although only a comparatively small change is anticipated during the next few months, it will, nevertheless, continue its downward trend. Dominguez is another field which is also gradually settling but it would not be at all surprising if it registered a slight gain as a result of the utilization of improved production equipment during the summer. The Shell and Union, which companies control most of the productive acreage in this district, could easily double their present output by additional drilling if it became necessary to do so.

Huntington Beach

The Standard's No. 7 Thompson, located in the lowlands facing the ocean front in the southeastern part of the Huntington Beach Field, was somewhat of a freak in that it registered an initial output upon completion during the week of 5,000,000 feet of gas from 3,400 feet. In addition to this large gas production, the well is making 75 bbls. of 26.6 gravity oil daily. The peculiar feature is that this well is located in an old producing part of the field where oil and gas production in the past has been a small item. In this instance the casinghead pressure is 1,250 pounds and, although it has remained quite stable for several days, it will probably drop off within a short time, in which case a larger oil production is anticipated.

In addition to this new well, the Standard listed one recompletion, No. 12 Bolsa Chica, returned to production after being cleaned out, pumping 90 bbls. of 21.2 gravity oil from 4,862 feet. The company is working on five new wells in this field in addition to No. 23 Bolsa Chica, which has turned out to be something of a deep test, the bottom of the hole at present being 5,720 feet. The Sun Oil Co. of California and the United Oil Co. each completed a new well, the former's No. 7 Wilson coming in flowing 381 bbls. of 20.2 gravity oil, while the latter's No. 1 Pacific was good for 169 bbls. of 26.4 gravity oil daily. No. 7 Wilson, drilled to 3,786 feet but later plugged back to 3,400 feet, was finished with a 6¼-inch oil string, 170 feet shop perforated, while No. 1 Pacific, carried down to 4,656 feet, was finished with a 6¼-inch oil string, 150 feet perforated.

Montebello

The Standard finished No. 1 Harvey at Montebello early in the week but the best it would do was 91 bbls. of 22.5 gravity oil daily from 3,685 feet. The hole was finished with an 8⅝-inch oil string, 312 feet of which was 120-mesh screen and 3,655 feet of 2½-inch tubing. The completion will probably result in the spudding in of No. 68 Baldwin within a few days, as complete rotary equipment has been installed. There are only three other wells drilling in this field. Clara Baldwin Stocker's No. 5-A and No. 12 Monterey and No. 5 Piufa of the St. Helens Petroleum, although the latter is rigging up rotary equipment in No. 1 McDonald and the McGinley Oil Co. is following a similar procedure on its No. 2.

The Fullerton Oil Co.'s No. 19-A in the Fullerton Field was a failure so far as deep production was concerned but the company has just finished it as a fairly good producer in the upper sand after plugging back. To complete it the company was obliged to cut and pull both the 4½-inch and 6¼-inch, run in another string of 6¼-inch and plug back from 4,960 feet to 3,450 feet. The well showed an initial pumping of 405 bbls. of 24.1 gravity oil cutting 2 per cent and, since rig construction was started several days ago for a new well, No. 21, drilling will probably get under way within two weeks. The Chanslor-Canfield Midway Oil Co.'s No. 96 Olinda, a deep test in this field, ran into a fishing job at 7,150 feet and unless a speedy recovery is made, the hole will probably be listed for abandonment, as it has not shown a single favorable indication.

At last reports the Union was coring both its Fullerton wildcats, No. 1 Olinda at 5,080 feet and No. 2 Olinda at 4,027 feet, but the result of these runs is not available. The company is stepping right along with its development program on the Stearns lease, where it finished one new well and is working on five drillers. The completion was No. 68 Stearns, which is flowing 380 bbls. of 23.6 gravity oil from the comparatively shallow depth of 2,707 feet. The Shell is also running six strings of tools in this field but it does not look as though any of the wells involved will be ready for production for several weeks.

Richfield

The Union heads the list of active operators in the Richfield district with seven drillers on its progress chart and the new rig going up for No. 7 Coyle indicates further work will be undertaken in the near future. The California Petroleum is making preparations to finish No. 11 Richfield Conoslidated at 4,760 feet and the hole will undoubtedly be bailed some time within a few days. The Standard has three drillers to its credit in this area, while the General Petroleum has a similar number and a new rig going up for No. 1-A Thompson. The latter is also running two strings of tools at Fullerton, both on the Tonner lease. The Continental Oil Co. under the direction of S. H. Keoughan, has taken over the holdings and equipment of the Merchants Petroleum at Richfield on a 65-35 per cent basis and work will be started within a few days, redrilling and deepening the initial well, which has been standing suspended for some time at 3,210 feet. Work is also scheduled to be started on another deep test, the Calokla Oil Co.'s No. 1 Bastan, which has been standing suspended at 4,130 feet, and H. H. Krohn,

TANKER SHIPMENTS FROM LOS ANGELES TO ATLANTIC AND GULF COAST PORTS

Commodity—	Total This week	Daily Average	Total Last week	Daily Average	This year To date	Same time Last year
Crude oil	416,166	59,452	306,592	43,799	6,404,044	8,162,924
Fuel and gas oil	.....	.....	354,453	50,636	4,529,118	237,873
Gasoline	156,906	22,415	156,661	22,380	3,283,167	3,201,119
Tops	.....	.....	.....	.....	74,619	251,000
Coastwise—						
Crude oil	547,255	78,179	146,869	20,981	11,867,927	14,423,191
Fuel and gas oil	225,167	32,167	148,270	21,181	4,433,903	5,576,178
Gasoline	136,280	19,469	58,217	8,317	3,536,330	2,043,962
Kerosene	.....	.....	.....	.....	166,870	239,763
Tops	90,098	12,871	.....	.....	480,544	85,986
Exports—						
Crude oil	153,399	21,914	.....	.....	2,495,429	1,195,998
Fuel and gas oil	506,841	72,406	249,923	35,707	7,972,355	7,047,730
Gasoline	.....	.....	.....	.....	2,529,480	2,015,036
Tops	.....	.....	.....	.....	.....	170,407
Kerosene	96,482	13,783	72,350	10,336	983,968	1,027,633

TANKER SHIPMENTS FROM SAN FRANCISCO TO ATLANTIC, GULF COAST PORTS

Fuel and gas oil	70,401	10,057	.....	.....	584,771	86,092
Gasoline	.....	.....	.....	.....	592,094	642,672
Tops	.....	.....	.....	.....	229,775	624,175
Lubricants	.....	.....	.....	.....	217,147	235,533
Coastwise—						
Fuel and gas oil	72,680	10,383	119,192	17,027	2,384,034	1,743,570
Gasoline	95,515	13,645	124,518	17,788	1,968,156	1,221,403
Kerosene	4,142	592	5,190	741	195,899	124,079
Exports—						
Fuel and gas oil	.....	.....	129,087	18,441	1,529,180	963,818
Gasoline	.....	.....	62,884	8,983	732,961	351,672
Kerosene	90,407	12,915	.....	.....	1,002,982	591,125
Lubricants	.....	.....	.....	.....	.....	293,429

HOPE VERTICAL COMPRESSORS

MANY criticisms, many objections, have been raised against the Hope Vertical Gas Compressor. Most of them were honest and well-intentioned. But all of them, boiled down, reduced themselves to this—the vertical gas compressor was new and untried.

Meantime, however, Hope Vertical Gas Compressors have continued to be built and sold—and improved, as practice dictated (for no new machine was ever perfect). And the month-after-month performance of these much-criticised units is building up a record of economy and reliability which speaks for itself.

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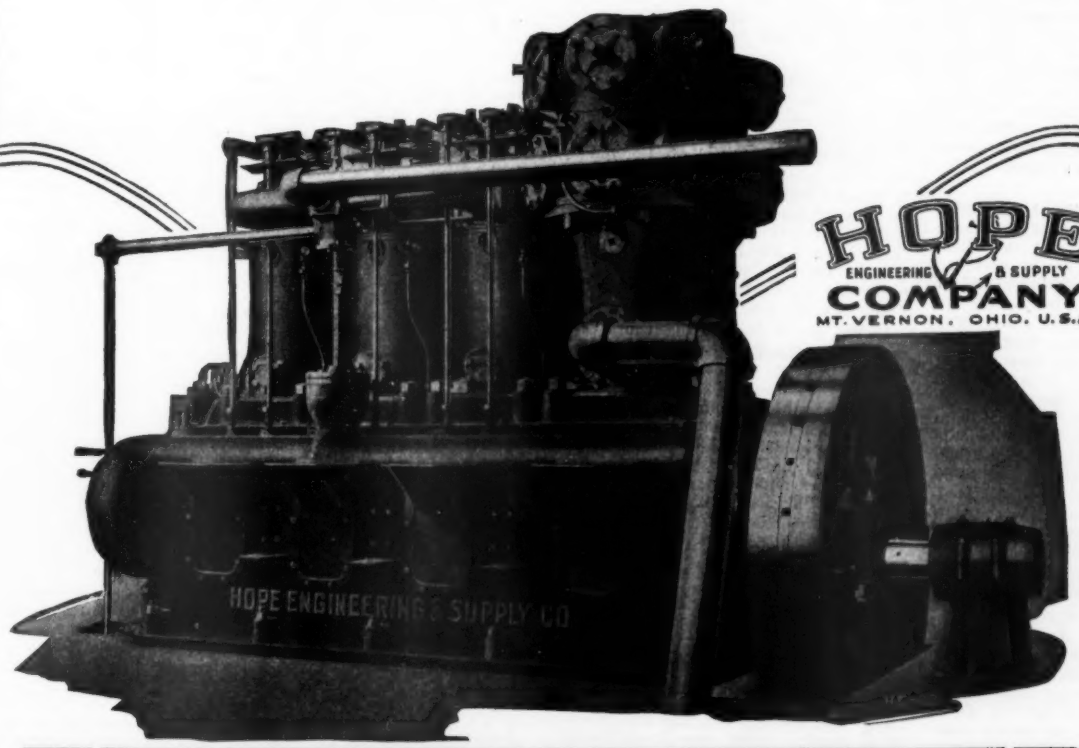

HOPE ENGINEERING & SUPPLY COMPANY
MT. VERNON, OHIO, U.S.A.

ENGINEERS & CONTRACTORS IN NATURAL GAS AND OIL

who has taken over the job, is already hauling in material for a new rig.

Ventura

The Shell's No. 8-A Gosnell was the most satisfactory well finished in the Ventura Avenue Field during the week as it is flowing 3,890 bbls. of clean pipeline oil from 5,146 feet. This company has several other drillers on the Edison and Gosnell leases which should be tanking oil within a short time and will also probably finish another producer or two on the Taylor lease within 60 days. The Shell's latest spud is No. 9 Edison, at present down 280 feet, and although rigs are going up for No. 10 Edison and Nos. 12 and 13 on the Gosnell lease, it is not believed they will be spudded in previous to the completion of some of the present drillers.

The Associated's No. 2 Hartman in the extreme northern part of the field proved somewhat of a disappointment at 5,263 feet in that it started off flowing at the rate of 3,000 bbls. a day but the oil production was soon displaced by gas and is only making 750 bbls. of crude. The gas production has been averaging around 10,000,000 feet daily and it is quite possible a substantial increase in oil production will take place as soon as the gas flow diminishes. The crew on No. 11 Lloyd is running a close race with that on No. 31 Lloyd and, although it is problematical just which well will come into production first, the former has a 36-foot advantage at 5,236 feet. No. 12 Lloyd at 4,903 feet and No. 33 at 4,978 feet also look promising for early production. No. 38 Lloyd was spudded in yesterday morning and is probably down 300 or 400 feet.

The Bolsa Chica's No. 1 Hartman, north of the Associated's No. 3 Hartman just completed, is perhaps one of the most important drilling projects at present, principally because of its location. Officials of the company are quite optimistic over the outlook, notwithstanding the failure of the Associated's well to hold up on production, and expect to give it a test around 5,200 feet. The well has just passed 5,111 feet and seems to have plenty of lift at this depth. The Petroleum Securities is held up in No. 1 Willett in the southern part of the field with mechanical trouble at 4,400 feet but is again drilling ahead in No. 1 Orton following the landing of a string of 11-inch at 3,270 feet.

G. J. Magenheimer's No. 1 Hartman, several hundred feet north of the Bolsa Chica's No. 1 Hartman and the Associated's No. 3 Hartman in the northern part of the district, is rotating ahead at 3,250 feet and seems to be logging up very closely with those to the south. The Associated's No. 1 Hobson, west of the Ventura Avenue Field, has been making hole in a brown shale for some time and the same formation was reported early this week at 4,810 feet. The Milham Exploration Co.'s No. 1 Sexton a mile or two east of the Ventura Avenue Field, is drilling ahead in a hard sand at 4,900 feet. No. 1 McGonigle of the Associated, which might be designated either as an outpost in the eastern part of the field or a wildcat, is rotating ahead in a sandy shale at 2,900 feet.

Midway-Sunset

Obispo Oil Co. finished redrilling and deepening its No. 11 out in the Maricopa Flats in Section 32-12-23 and is making preparations to land a string of 6¼-inch at 3,955 feet. This is approximately 45 feet shallower than the completion depth of No. 6, the first well to secure commercial production in the deep Maricopa brown shale at this point. The initial well is still carrying about 20 per cent water and the company, in concluding drilling on No. 11 at 3,955 feet, did so in the hope that if the water present in No. 6 was bottom water it would be eliminated in No. 11. The present driller has had a number of favorable showings and the outlook is somewhat encouraging.

The Lewis Petroleum's No. 16 in Section 17-11-23, staged a short gas blowout from 1,150 feet but it was successfully mudded off and indications point to a shallow producer good for at least 250 bbls. daily. The Miocene Oil Co. is working on an unusually deep hole in Section 32 and the well in question, No. 4, is going ahead at 6,625 feet. The Union's No. 1 Houchin in Section 10-11-23 has not yet picked up the brown shale found by the Standard in its Rass lease but will probably do so some time during the next 10 days. The Union's well is rotating ahead at 5,131 feet. The Chanslor-Canfield Midway Oil Co. is apparently contemplating a considerable amount of work at Midway which is evidenced by the fact that permission has been requested of the State Mining Bureau to redrill and deepen four wells in Section 6-32-23 and Section 9-32-23, making a total of nine wells to be worked over.

Some new work was undertaken in the Mt. Poso area during the week and, although the Barnsdall, Harry Failing and Jack Porter have rigs up, none has yet spudded in. The Shell's No. 1 Vedder, the discovery well which is being deepened, is reported down 2,410 feet but has not found any favorable indications since passing through the upper zone at 1,930 feet. General Petroleum is planning immediate development of its recently acquired holdings on the Kern River front and will start a new well on Section 3-28-27 and another on Section 14-28-27. The company established a field office in Bakersfield a few weeks ago and its operations along the Kern front and in the Poso Creek will be handled from this point. George F. Getty's No. 2 Tegeler in Section 22-28-27, a Kern front well, turned out to be a 100-bbl. pumper at 2,461 feet, the oil testing 13.4 degrees and showing a cut of 5 per cent.

Southern California Wildcats

The Union has just passed the 4,000-foot level in No. 1 Bryant at Seal Beach and this well will undoubtedly be watched very closely from now on, although the pay is not expected much above 4,500 feet. The Marland is making splendid progress with its No. 2 Bixby, also in this area, and although the well was only spudded in a short time ago, it is already down 2,700 feet. The Associated has concluded drilling on its third diamond core survey hole in Section 12-5-12 at 1,491 feet and the equipment is being moved to another location. Featherstone & Preston, who have been successful in developing production in the northwest extension of the Long Beach Field, have decided to do a little wildcatting and will put down a test on the Comstock property at Clearwater. There have been three or four dusters drilled in this area in the past few years but none was close enough to condemn the new location.

No. 1 Howland of the Union, a wildcat west of the Inglewood Field, suffered a temporary shut down due to boiler trouble but will probably get under way again in a few days. There were no new developments in the Manhattan - Hermosa Beach area and the outlook remains rather unfavorable. George W. Johnson's No. 1 Martin and H. A. Bardeen's test are both held up with wet jobs and, although the Julian Petroleum's No. 1 Hellman should have picked up something, it failed to do so and drilling is continuing at 4,400 feet. Milham's No. 2 at Playa del Rey has just passed the 5,400-foot level with not a single favorable indication logged to date and it will probably be listed for abandonment. No. 1 Merlo of the Barnsdall at Avacado Heights in the Puente area is drilling ahead in a sandy shale at 1,800 feet. The Standard passed out of the hard conglomerate which has been quite prevalent during the past few hundred feet in its San Fernando wildcat and the bit is going ahead at 2,140 feet. The company's No. 1 Austin in Topango Canyon, which is a cable tool job, is down 242 feet, having only been spudded in recently. The Beaumont Midway Sundicate is abandoning its Riverside County wildcat as a duster at 5,355 feet and, although several showings were reported, they were never confirmed.

Northern California Wildcats

The Union has resumed drilling in No. 1 Theta, northwest of the Belridge Field in Section 23-28-20, and is making hole at 1,780 feet. W. W. Taylor is drilling ahead in his Clovis, Fresno County, wildcat in a granite formation at 412 feet but it is hardly likely he will continue work for any length of time unless this is just a surface condition. The Associated has reached a depth of 2,102 feet at Huron, the prevailing formation being a sandy blue shale. The Pyramid Oil Co.'s wildcat in Monterey County is drilling ahead in the Santa Margarita sandstone at 2,195 feet. The first blue shale was encountered between 2,095 feet and 2,140 feet. Considerable gas has been logged for the last 300 or 400 feet, the most encouraging feature of which is that it can be lighted at the top of the bailer and burns with the usual color of an oil gas.

Several geologists have condemned this location because of the granite formation encountered higher up in the hole but core samples taken since drilling through the granite boulders tend to indicate the well has been drilling in sedimentary rocks. The Pan American is rigging up rotary equipment in its Monterey County wildcat but spud will probably not be made for several days. Oscar Howard and King Gillette's No. 1 Elkins on South Mountain is standing cemented at 2,300 feet, the bottom of the hole being 2,310 feet. The Shell has not yet found anything of importance in No. 1 Berlywood at Moorpark but is, nevertheless, continuing drilling at 4,068 feet. The Standard's two Ventura County wildcats, one at Camarillo and another in the vicinity of Montalvo, should be spudded in within 10 days.

FIFTEEN DRY OUT OF TWENTY WELLS COMPLETED IN MEXICAN FIELDS

By George Blardone
Staff Correspondent, Mexican Fields

TAMPICO, Mex., June 25.—With some 20 wells finished the past week in Mexican fields, five can be rated as producers, with 15 going into the discard. True, two of the latter may strip some oil, being fluid wells showing some pressure. The best well of the week is Empire Gas & Fuel Co.'s No. 19 Robles, in the old Tampascos lease in the Panuco Field. The well came in at the shallow depth of 1,710 feet, being rated for 2,500 bbls. initial production. East Coast Oil Co. has a 100-bbl. well in its No. 49 Laguna de la Milpa at 1,950 feet. Up in the Cacalilao sector, Mexican Sinclair Petroleum Corp.'s No. 86-A, Lot 2 Cacalilao, is good for 100 bbls. at 1,903 feet. In the Topila sector, Cochrane's No. 10 Paciencia de Aguacate, is good for, say 25 bbls. at 2,477 feet.

In the southern fields, Huasteca Petroleum Co. has a 1,000-bbl. well in No. 62 Tierra Blanca, which finished at a subsea level of 1,932 feet. Mexican Eagle Oil Co. has two fluid wells in Cerro Veijo, Nos. 37 and 44, finished at sub-sea levels of 1,927 and 1,920 feet respectively. The production department may strip some oil from these two. Mexican Eagle's No. 1, Lot 2 Escobal, a wildcat drilling well, south of the Tuxpam River and something north from the old Furbero Feild, is a dry hole at 3,237 feet.

Other dry holes in the south fields were: Huasteca Petroleum Co.'s No. 66-A Tierra Blanca, finished at 2,523 feet; Agwi Companies' No. 41 Laguna de Tamiahua, which is officially indefinitely suspended at 2,507 feet; and another indefinite suspension is Penn Mex Fuel Co.'s No. 3 La Pita, south of the Tuxpam River, and west of anything yet drilled in juxtaposition to that stream, which is shut down in the Chicontepec series at 4,050 feet.

Northern Failures

Failures in the northern fields can be listed as follows: La Corona Petroleum Co.'s No. 116 Potrero de Ojital, finished in salt water at 2,040 feet. English Oil Co.'s No. 12 Tampascos, is a dry hole at 1,855 feet. Mexican Gulf Oil Co.'s No. 6 Piedras drilled into salt water at 2,020 feet. The above sums the Panuco district. Farther north were the following: Transcontinental Petroleum Co.'s No. 257, Lot 4 Cacalilao, is a dry hole at 2,480 feet; Mexican Petroleum Co.'s No. 74 La Dicha, Ebano, is a dry hole at 2,201 feet, and this is also true of its No. 49 Midway at 2,240 feet. Mexican Gulf Oil Co.'s No. 17-A Chapacao is a dry hole at 2,200 feet, and its No. 42 is the same at 2,250 feet; National Lines' No. 47 Chapacao developed salt water at 2,281 feet.

At Panuco

Panuco contines to attract the most attention in the combing over of old producing territory. Drilling operations there as the week ended are best reflected as follows: La Corona Petroleum Co.'s No. 82 San Manuel is in Tamasopa lime at 3,685 feet; its No. 117 Potrero de Ojital is in the same formation at 1,875 feet, with hole full of oil; No. 118 Salvasuchi is in blue shale at 1,070 feet, and four more tests are rigged waiting for permit. Credito Petrolero's No. 11 Las Piedras is in lime with a showing of oil at 1,645 feet. East Coast Oil Co.'s No. 56 Laguna de la Milpa is in gray lime, showing 150 bbls. at 1,850 feet, which marks it a small well even now. International Petroleum Co.'s No. 25 Tanchicuin has cemented 6-inch casing in gray lime at 1,347 feet. Mexican Sinclair Petroleum Corp.'s No. 17-A, Lot 2 Camolote is in gray shale at 625 feet. Mexican Gulf Oil Co.'s No. 4-A Piedras has cemented 8-inch casing in gray lime at 1,245 feet; its No. 18 Flores has done the same at 1,223 feet; its No. 23-A Lopez is in sticky shale at 325 feet, and No. 26 Lopez is in gray lime at 1,150 feet. Transcontinental Petroleum Co.'s No. 2, Lot 15, Tanchicuin is in shale at 250 feet; its No. 4 Buena Vista (Caley) is in shale at 1,080 feet, and it is rigging for No. 7-H Etienne and No. 16 Ojital. Empire Gas & Fuel Co.'s No. 22 Robles is in lime shells at 1,200 feet, and its No. 12, Lot 11 West Maguabes has cemented 8-inch in hard gray shale at 1,050 feet. Explotadora Riquezas Naturales' No. 1 Buena Visa is in gray lime at 1,895 feet, gassing.

At Cacalilao

In the Cacalilao sector of the northern fields, operations follow: La Corona Petroleum Co.'s No. 182, Lot 4, is in shale at 300 feet, and No. 183 is spudding. International Petroleum Co., in Lot 5,: No. 263 has cemented 10-inch in the San Felipe at 1,204 feet; No. 270 is in white lime at 2,055 feet; No. 271 is in gray lime at 2,045 feet; No. 272 is in the same formation at 2,271 feet. Mexican Sinclair Petroleum Corp.'s No. 129, Lot 2, is rigging. Transcontinental Petroleum Co.'s No. 247, Lot 4, is in lime at 1,860 feet; its No. 258 is in the same formation at 1,800 feet, and its No. 264 is running 8-inch at 1,345 feet in the San Felipe.

At Ebano

In the Ebano sector, the following obtains: Mexican Petroleum Co., in its Chijol: No. 46 is in gray and white lime at 1,150 feet; No. 51 is in gray lime at 1,900 feet; No. 55 has cemented 8-inch in gray lime at 1,815 feet; No. 56 is in gray lime at 1,472 feet and No. 59 is in blue shale at 115 feet. In La Dicha, No. 72 is in gray lime at 1,455 feet; No. 102 is in gray lime at 2,310 feet; No. 104 is in gray lime at 1,440 feet; No. 106 is in white lime at 2,650 feet; No. 109 is in gray lime at 1,375 feet; No. 112 is in blue shale at 82 feet; No. 113 is in gray lime at 1,665 feet. In its Silva, Mexican Petroleum's No. 8 is in gray shale and shells at 1,205 feet; its No. 22 San Pedro is in white lime at 2,045 feet. In the Chapacao right of way through the Ebano sector, National Lines'

(Continued on Page 92)

"The New D&B Simplex Pumping Jack is the slickest rig ever put to work pumping an oil well and *The Doubled Plunger Travel Insures Increased Production*"

—Says Sturdy Steve.

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This new D&B Jack provides a 6′ 1⅝″ polish rod straight line travel, and, at a maximum speed of 25 strokes per minute, gives 150 ft. of plunger travel per minute as compared with 75 ft. where the Walking Beam is used. One prominent company has already increased the production of one of its wells 20% through the use of this jack.

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The New D&B Simplex Pumping Jack gives an exceptionally easy, smooth motion to sucker rods on long stroke at high speed, reduces rod whipping and vibration, increases the life of the sucker rod string, lessens frequency and costs of pulling jobs, and greatly increases production if the fluid is there. Far more economical than the walking beam pumping unit type. Its many fine features insure a new high standard in pumping jacks. Special folder and prices on request.

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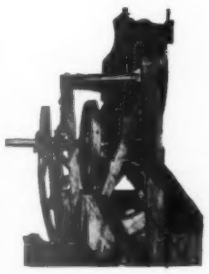
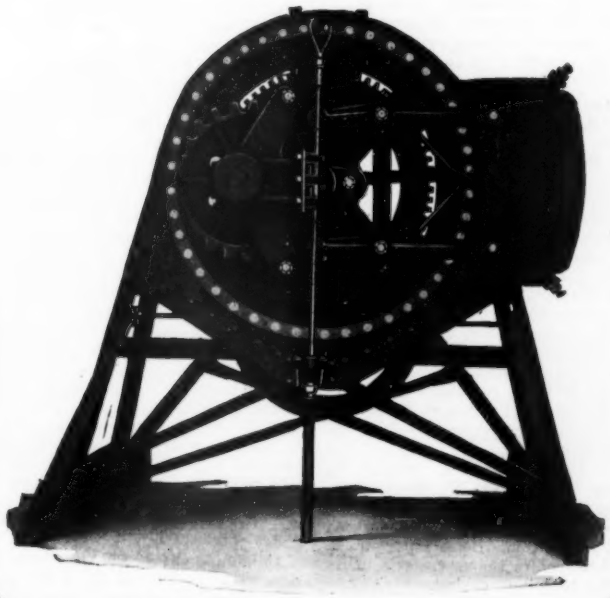
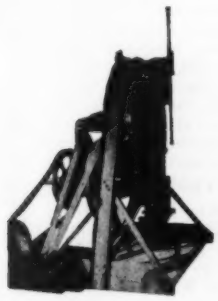






QUALITY FIRST D•B TRADE MARK

QUALITY FIRST D•B TRADE MARK

New Wildcatting in Southwest Texas

Medina County Is Now the Center of More Edwards Lime Tests Than Any County in the Balcones Fault Zone

By B. D. Stevenson
Staff Correspondent, Southwest Texas Fields

SAN ANTONIO, Tex., June 28.—Simms Oil Co.'s No. 1 Leyendecker, on Survey 143, 5 miles south of the Randado Field in Jim Hogg County, tested at 2,090 feet and got a little gas and nothing more. It is a disappointment but the Simms Co.'s No. 1 Weil, on Block 16 of Section 81, three-quarters of a mile north of the nearest production in the Randado Field, is a better well than expected at first and results in a most important extension to the field and already rigs are moving in to offset the new producer which came in swabbing 900 bbls., according to the office of the Simms Oil Co. at Laredo. It will probably make a 150 and possibly a 200-bbl. well on the pump. The nearest production to it is Simms' production in Survey 291, to the south. Grayburg Oil Co. owns the 40 acres next east of the Simms Oil Co.'s No. 1 Weil, and is moving in a rig to drill an offset. C. O. Maddox owns the 40 acres immediately south and is moving in rigs to drill three tests, one of which will offset No. 1 Weil.

The week has added some interesting features to the industry with developments scattered over widely separated sections and indicating new activity in wildcatting as well as drilling for production in proven territory. Medina County is now the center of more Edwards lime tests than any county in the Balcones Fault zone with six tests drilling, two more to start in a few days and two other deals pending and negotiations about closed.

The territory northeast of San Antonio in the Balcones Fault zone, characterized at times as "blowed up" so far as Edwards lime tests are concerned is proving to be very much otherwise with the J. W. Allen No. 1 Joe Brown, west of Rockdale in Milam, gassing heavily at 1,949 feet in hard lime. The Texas Company, drilling a little south of it at 900 feet, and George Lyles arranging to drill an Edwards lime test to the north of it. In addition, there is more Edwards lime activity in Caldwell and Guadalupe Counties and the Humble Co. is starting a deep test in Wilson County. There is every reason to believe there will be no abandonment of Edwards lime tests in the Balcones Fault zone both east and west of San Antonio, and the southern half of Bexar County has several wells drilling to the Edwards lime and is developing some important shallow production as the result of previous tests that were failures in the Edwards lime.

Randado Field

Randado Field in Jim Hogg County, 7 miles south of the Henne, Winch and Fariss Field, and the Bruni tracts and Edgington subdivision tracts territory south of the Aviator Field in Webb County, are still the most active fields in the Mirando district. Pipeline runs from the Randado Field on a one-day gauge last week, showed the runs from wells were 3,050 bbls. The field is running more oil than that and has been for some time due to accumulations before the pipelines were in operation. Magnolia is getting most of the oil and Humble is getting the rest. The run of 3,050 bbls. in one day was from 18 wells and there are 14 other wells, some of which have since been put on production and all of which were expected to be on production by the first of the week. The field starts in this week with about 32 wells on production and the predictions made early in May that there would be 40 wells producing by the end of June seems quite likely of fulfillment for there are sufficient rigs in the field to make more than eight more completions by June 30. Production of the field will likely be a little better than 5,000 bbls. daily by June 30.

Simms Oil Co.'s No. 1 Weil, in Block 16 of Section 81, three-quarters of a mile north of production in the Randado Field, is the most important well of the week because of the extension of the field to the north and also because of the size of the well. It will probably pump easily 150 bbls. a day initially when put on the pump. It is swabbing much more. The Simms Oil Co.'s well is 460 feet from the west line of Survey 81, and 150 feet from the south line. Previous locations given are in error. The depth of the well is 1,304 feet, while all the other producers are shallower than that, the deepest being around 1,270 feet.

Grayburg Oil Co. owned Survey 81 with other acreage around it and sold half of the acreage to Simms, checkerboarding the "forties." Simms, Grayburg and Hallmark, all drilled wildcats a few months ago from 1 to 1½ miles northwest of No. 1 Weil. Simms is moving a rig to a location 310 feet west, which will be 150 feet from the west and south lines of Survey 81. Grayburg is moving in a rig to drill 150 feet from the west and south lines of Block 15, which is the next 40 acres east of Block 16. C. O. Maddox owns the 40 acres south of Block 16 and is moving in a rig to drill an offset south of No. 1 Weil for his No. 1, and has a location 300 feet west of No. 1 for his No. 2, and a location for No. 3, which will be 150 feet from the south line of his 40 acres. Andrews Petroleum Co. owns a lease next west of the Maddox 40 acres in Survey 291, which is nearly offset by Simms' No. 1 Weil, and Simms Oil Co. owns the two tracts west of No. 1 Weil, in Survey 82. Thus there will at once be a new center of drilling activity in the Randado Field.

Production by Wells

A check up on the field to date shows that Simms Oil Co. has one gas well, one flowing oil well, No. 2 Palacious, Nos. 3 and 4 are on the pump and with the production of No. 2 are making a total for the three wells of 450 bbls. daily. Nos. 5 and 6 are completed and going on the pump, and No. 7 is drilling. These are all in the southeast corner of the northwest quarter of Survey 291. Magnolia has Nos. 1, 2 and 3 on the west end of Block 10 of Survey 291, all on the pump. Nos. 1 and 2, pumping 20 to 25 bbls. each, and No. 3 making 100 bbls. No. 4, next north of No. 3, and in the southwest corner of Block 7 of Survey 291, is ready for the pump and will probably make 150 bbls. No. 5, next north of No. 4 is drilling, and about ready to set casing.

On Survey 415, next south of Survey 291, and on land owned by the Merchant State Bank, Magnolia's No. 1 is making about 15 bbls. of oil on the pump. Nos. 2 and 3, on either side of it passed up the shallow sand and drilled deeper and got nothing and are abandoned. No. 6 is in the northwest corner of Survey 415, located 150 feet each way from the corner and has set casing at 1,233 feet. It will be brought in this week. Nos. 4 and 5 Merchant State Bank are in Survey 267, immediately west of Blocks 20 and 21, in Survey 291, and are gas wells.

Black, Pearson & Hudson's No. 1, in the southeast corner of Block 13 of Survey 291, is being put on the pump. No. 2, located 300 feet west, and No. 3, located 300 feet north of No. 1, are flowing wells and are making a total of 800 bbls. daily for the two. No. 4 is a location, 300 feet north of No. 3. Wheelock & Collins' No. 1, on Block 21, the 40-acre block, in the southwest corner of Survey 291, is a gas well. It is the second location from the northwest corner of the "forty." No. 2, located 300 feet east of No. 1, is swabbing 225 bbls. of oil a day. No. 4, in the northeast corner of the same block, is swabbing about 600 bbls. a day. No. 3, located between Nos. 2 and 4, is drilling. American Well & Prospect Co. owns the discovery well, No. 2 Palacious, in the northwest corner of Block 19 of Survey 291, which is on the pump, and No. 3, in the northwest corner of Block 15, which is pumping, and No. 4, in the southeast corner of Block 14, No. 5, next location north of it and No. 6, next location north of No. 5, are all drilling in at this time and Nos. 7 and 8, also on Block 14, are locations to be drilled next. Four rigs are now running for American Well & Prospect Co. in the field and another is moving in.

Houston Gulf Gas Wells

Houston Gulf Gas Co., in the north 39 acres out of Block 20 of Survey 291, has No. 2 in the northeast corner of the block, and No. 4, one location west of it which are flowing and in a 24-hour gauge one day last week, made 645 bbls. of oil, total for the two wells. No. 6, located 300 feet west of No. 4, is a gas well. No. 5, located 150 feet north of the center of the south line of the 39-acre block, is drilling in, and rigs are moving to the location in the southeast corner of the 39-acre tract, and one location north of it and one location west of it. The same company's No. 1 Palacious is 150 feet from the south line of Block 22, and is a small well offsetitng No. 1 Merchant State Bank of the Magnolia, on Survey 415. Derrick is up in the northwest corner of Block 22 and rig moving in for a Houston Gulf Gas Co. test. In Block 11, Houston Gulf Gas Co. has No. 3, a gas well, and Nos. 7, 9 and 8, along the north line of locations, all oil wells on the pump. No. 8 being in the northeast corner of the block and No. 5 located 300 feet south of No. 8 completed. Nos. 7, 8 and 9, on a 24-hour gauge made 637½ bbls., total for the three on the pump.

Wildcats in Jim Hogg

Independent interests are preparing to drill a test on Survey 614 in Jim Hogg County, 2 miles north of No. 1 Weil of the Simms Oil Co. on Survey 81. Murchison & Fain are drilling at 2,400 feet in No. 1 Yeager in Survey 452, in the northwest corner of Jim Hogg County. Benedum & Trees are shut down waiting

IMPERIAL OIL AND ROYALITE WELLS IN ALBERTA MAKE GOOD PROGRESS

By Victor Lauriston
Staff Correspondent, Canadian Fields

CHATHAM, Ont., June 26.—In the Turner Valley Field southwest of Calgary the Royalite Oil Co. No. 4, LSD 12, Section 7-20-2w5, produced for the month of May some 15,734 bbls. of crude naphtha, compared with 16,008 bbls. in April. Production of the other three Royalite wells, through the gasoline absorption plant, in the same period approximated 25,000 gallons. The slight decline in production of the big gusher is accounted for by the theory that condensation is greater in extreme cold weather. During the winter the production increased from 15,417 bbls. in November to 16,076 bbls. in March.

Good progress is reported at most of the Imperial Oil, Ltd., and Royalite Oil Co. wells in Alberta. In the Turner Valley Field Royalite Oil Co. No. 5, LSD 13, Section 7-20-2w5, is down 3,195 feet and drilling steadily. Royalite No. 6, LSD 16, Section 31-19-2w5, is down 2,872 feet and working on 12½-inch casing.

In the other Alberta fields where Imperial Oil, Ltd., is carrying on operations, the greatest progress is reported on the border, where the Imperial Oil, Ltd., Erickson Coulee test is down 2,240 feet with rotary outfit and drilling. Imperial Oil, Ltd., Burdett No. 1, in the Bow Island Field, is working on derrick and rigging up for a rotary outfit to make a deep test for oil on the old Bow Island gas structure.

West of Calgary, Imperial Oil, Ltd., Bow River No. 1, LSD 15, Section 12-25-5w5, is down 2,432 feet, with 12½-inch casing all run in the well and cemented at the bottom. Some repair work is being done before the test starts drilling for the 10½-inch casing.

In the southern foothills, Imperial Oil, Ltd., Rice Creek test, Section 4-14-2w5, is down 4,430 feet and the crew running the 6½-inch casing to guard against caving at the bottom. Casing will hereafter be carried down behind the tools by underreaming.

On the Sinclair structure, Imperial Oil, Ltd., is rigging up Highwood No. 1 test with a standard outfit. The location is LSD 3, Section 36-18-3w5.

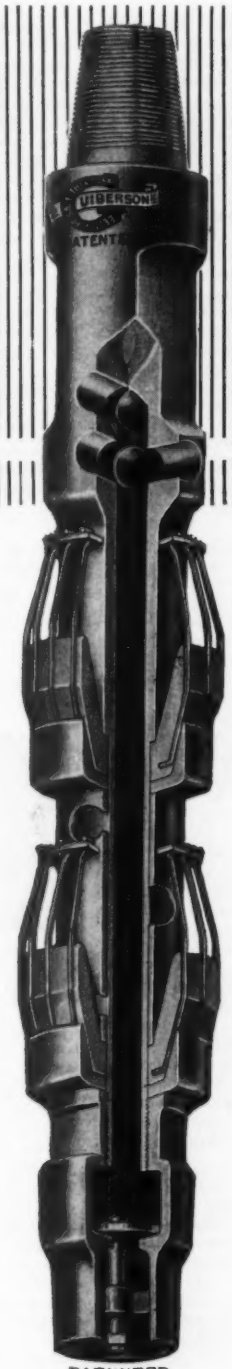
In eastern Alberta, Imperial Oil, Ltd., has made a location in the SW of Section 5-45-1w4, for a test of the Ribstone-Blackfoot structure. Drilling rights in this area, covering some 10 sections, were secured from the C. P. R. and the Hudson Bay Co. The location is just east of the axis of the anticlinal structure delimited by Dr. G. S. Hume of the Geological Survey of Canada, and a trifle south of the Battle River which cuts across the line at this location. A combination rotary and cable outfit is being assembled for the test.

Turner Valley

In the Turner Valley Field, Vulcan Oils, Ltd., No. 1, LSD 11, Section 13-20-3w5, is down 4,860 feet and underreaming. Drilling has been very slow, the shale brought up showing considerable traces of limestone. McLeod Oil Co. No. 2, LSD 16, Section 1-20-3w5, is at 3,678 feet and in the limestone. Operations have been delayed by a lost bit which has been recovered. Arrangements are being made for a technical expert to take charge of the final work of drilling in the well. Illinois-Alberta Oil & Refining Co., LSD 14, Section 12-20-3w5, at 3,662 feet struck a flow of light green oil of high grade which overnight rose nearly 500 feet in the hole. The drill is apparently in the Dolomite limestone in which Royalite No. 4 got its big production. Tests of the Dolomite content are being made prepartory to drilling deeper, and casing will likely be run to the bottom of the hole and cemented before drilling the well in. The gas flow is about 1,500,000 feet a day.

Dalhousie Oil Co. No. 1, LSD 4, Section 18-20-2w5, is down 3,546 feet and cementing 6-inch casing. The hole, which is apparently in the top of the limestone, has about 100 feet of light oil standing,

(Continued on Page 78)



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Our "Type E" Swab has demonstrated the long-wearing qualities of its cups on Sinclair No. 23 North Walker well, at Garber, Oklahoma. Charles Sherbrook, driller (right), states he ran a Type E Swab a total distance of 550 miles, in and out of the hole, with one set of rubbers. He says he has used every make of swab on the market, and the GUIBERSON is the best yet. The other man is Hobart Goodwin, tool dresser.

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for orders at 3,720 feet in No. 1 on the Wilbur Allen ranch, and are testing a sand at 2,245 feet in No. 3, and have set 8¼-inch casing at 2,300 feet in No. 2. Simms Oil Co. spudded in the past week in No. 1, on Block 2 of Section 23 of the Wilbur Allen ranch. Oil Exchange of Laredo has spudded in on the southwest 40 acres out of Survey 230, and 150 feet from the south and west lines and will make a shallow test a little west of the Pippin gas well, drilled a few years ago. They expect production at about 1,525 feet. H. J. Porter-Smilock have made location in Survey 38 of Jim Hogg County. L. M. Holden is drilling at 1,121 feet in No. 2 Jones, 6 miles east of Hebbronville.

Henne, Winch and Fariss

In the Henne, Winch and Fariss Field, K. & St. A.-Weber, Block 1, Survey 16, is drilling at 1,550 feet. K. & St. A.'s No. 36 Holbien, Block 14, Section 11, is a 100-bbl. oil well, at 2,143 feet. Same interests' No. 38 Holbien, Block 8, Section 16, is a derrick. No. 39, on Block 40, Section 11, has spudded in. No. 40, on Block 30, Section 12, has spudded in. No. 41, on Block 41, of Section 11, has spudded in. Associated Oil Co.'s No. 3 Lopez, on Block 20 of share No. 1 Las Animas grant, is rigging up. Magnolia Petroleum Co.'s No. 9 Martinez, at 2,083 feet, is testing. No. 10 Martinez is rigging up on Survey 276, and No. 11 Martinez has erected the derrick. No. 12 Martinez, in Block 7 of Survey 256, has abandoned the location.

Webb County

Gibson Oil Corp. and J. E. Walsh have completed their sixth well on the north 60 acres out of the west half of Block 13 in the Bruni tracts next south of the Aviators Pool in Webb County. The first well was spudded in May 20 and completed June 4 and four of the wells are putting 800 bbls. into the Humble pipeline daily. Depth of the wells is a little over 1,700 feet and the speed with which the wells have been drilled illustrates one of the attractive features of the new extension of the Mirando Field. Four of the six producers completed are in the four corners of the lease proving it up and all the outside locations on the 60-acre tract, 15 in all, will be completed in another two or three weeks.

Wheatley & Carter are preparing to drill immediately west of Block 71 of the Puig Brothers ranch in territory more or less wildcat that will result in a west extension of the field if they get a well. Murchison & Fain have rigged up on their No. 2 in the S half E half Block 13. Ball has set casing in No. 3 Bruni in the N half E half Block 13. Kirkpatrick-Lucas are drilling at 500 feet in No. 1 Puig in the Edgington subdivision. O. W. Killam's No. 1 Bruni in Block 7 of Survey 835, stopped at 2,800 feet and is plugging back and will complete at 1,638 feet where it came in a 35,000,000-foot gasser when first drilled.

Crown Central's No. 10 Garcia, a deep test in the Los Ojuelos Pool of the Mirando Field, has spudded in and made the first few hundred feet. Crown Central is rigging up for its No. 2-B Bruni on Block 16 and has set casing at 1,712 feet in No. 10 Bruni on Block 17, is drilling at 600 feet in No. 11 Bruni in the W half of Block 43, is ready to spud in on No. 12 Bruni in Block 43, has the derrick up for Nos. 13, 14 and 15, all in the W half of Block 43. Crown Central-Staley & Wynne are drilling at 1,200 feet in No. 6 "A" Bruni in Block 14, completed No. 2 "B" Bruni in Block 14 swabbing at the rate of 400 bbls. a day, and have the derricks up for No. 3 "B" Bruni and No. 7 "A" Bruni.

One of the features of the field is that the Associated Oil Co. well in the northeast corner of the S half of Block 44 of the Bruni tracts, first reported with a core that indicated a well and then reported a dry hole, was not entirely dry. It got an oil sand at 1,700 feet, drilled deeper and got another sand at 1,744 feet that was estimated to be good for 10 bbls. of oil a day but had some water trouble with it. If it had been completed as a well it would have extended the field a quarter of a mile south. Since it was good for a little oil it does not entirely condemn that area and some additional drilling will be done there.

Cored Good Oil Sand

Another feature of the field this week is the Houston Gulf Gas well in the southwest corner of Block 12 of the Bruni tracts which has set casing at 1,756 feet after coring a good oil sand at that depth. It means a quarter-mile extension to the east at that point in the field and will be the farthest east producer in the field if it makes one.

Frank Ketch of the Ruthada Oil Co., is reported to have refused $300,000 for the east half of Block 18 of the Bruni tracts containing 80 acres and with two producing oil wells completed, one in the northwest and one in the southwest corners of the lease and with the Houston Gulf Gas Co. well in the southwest corner of Block 12, a diagonal offset to the northeast corner of the Ruthada lease. It is the highest price known to have been offered for a lease in the Bruni tracts. National Refining Co. bought the east half of Block 43 immediately south of the Ruthada "80" and with one well completed in the northwest corner, for $50,000 cash and $50,000 oil and assumed an obligation of $20,000 (previously reported as $16,000) Ketch has since bought a lease from the Garcia interests in the Los Ojuelos territory in the older part of the Mirando Field and immediately east of production.

National Refining Co., which bought the east half of Block 43, is starting in at once to develop the lease and will drill a number of wells on it. George Echols on Block 68, 2 miles east of production, got water at 2,000 feet and is abandoning the test. Stroube & Stroube set casing at 1,790 feet in No. 1 Puig on Block 78 of the Edgington subdivision and were drilling in and testing today. They have derricks up for other tests. Staley & Wynne are drilling at 600 feet in No. 7 Bruni on the south 20 acres out of the west half of Block 13, and are rigging up on No. 8 Bruni in the southwest corner of Block 18 and have the derrick up for a test in the northeast corner of the west half of Block 18. Sun Oil Co. is drilling at 1,450 feet in No. 3 Bruni in the east half of Block 45. Ruthada's No. 2 in the northwest corner of the east half of Block 18 came in swabbing 400 bbls. at a depth of 1,730 feet. O'Hern & Putnam are moving a rig to the location for the Ruthada No. 3 located 300 feet east of No. 2 and the location for No. 4 waits the outcome of the test of the Houston Gulf Gas Co.'s No. 1 in the southwest corner of Block 12. Three Rivers Oil Co. has its No. 7 Puig on the south line of locations in Block 77 of the Edgington subdivision on the sand with casing set and ready to come in. Location for No. 8 has been made 300 feet east of No. 7. Edgington-Niles are drilling at 1,250 feet in No. 1 Puig in the southwest corner of Block 65 of the Puig Brothers tracts. Associated Oil Co. has abandoned the location in the northeast corner of the south half of Block 47 that would have meant a half-mile or more extension of the field, due to failing to make a well on the south half of Block 44 to the north, which in a way condemned the location on Block 47. Laredo Oil Co. is testing its No. 11 Killam on Survey 457 in the edge of Mirando City, at a depth of 1,645 feet. Layne and others have abandoned at 2,110 feet No. 1 Lopez on Survey 309, a wildcat test south of the Bruni tracts. Neals-Ramsland and others have spudded in No. 1 R. Lopez on Survey 309.

Carolina-Texas Field

In the Carolina-Texas Field several new tests are announced about to start to extend and develop the field and seek to find oil production near the gas. Maurer & Duggan are preparing to drill on acreage of Forrest and Lightfoot. Hazlett-Simmons Corp. has made two locations, one on the southwest quarter of Block 9 of Survey 268 and the other on the northwest quarter of Block 16 of Survey 268. J. H. Winch has rigged up and spudded in on a new test of Block 12 of Survey 336, having recently completed a big gas well on the tract. Houston Gulf Gas Co.'s No. 1 Barnsley set casing at 1,991 feet on Block 9 of Survey 268 and tested a little gas and is drilling a little deeper. The same company has a location on Block 15 of Survey 268. Associated Oil Co. is making a test in its No. 2 "A" Webster in Survey 684 (the Usher Carson Block) at 2,620 feet and has the derrick up for No. 3 Webster. Daniels & Best's No. 1 Webster on Survey 684 is drilling at 480 feet.

Webb County Wildcats

National Refining Co. announced rigging up on Survey 700, about midway between the Carolina-Texas and Cole gas fields, changed the location to an adjoining survey (699). Burns & Malone are coring at 2,800 feet in No. 1 Coe on Survey 51 southwest of the Carolina-Texas Field. Lane-Texas townsite well in Laredo is drilling at 2,002 feet. Robinson's No. 1 Barnsley in Survey 71, several miles northeast of the Caroline-Texas Field, is drilling at 2,187 feet. Benedum & Trees have made a location for their No. 1 Billings on Survey 10 near the Carolina-Texas Field.

In the Webb County side of the Cole gas field Cole Petroleum Co.'s No. 10 "A" Von Block 5 of Section 3, a mile or more west of production, is taking core at 2,650 feet at about the depth of a good showing in No. 10, which was later abandoned at a lower depth. Cole's No. 9 "A" in Block 7 of Section 753, 2 miles west of 10 "A" has spudded in and is drilling at about 200 feet (corrected depth). Cole's No. 23 in Block 9 of Section 8 in the west of Webb County edge of the Cole gas field, is drilling at 2,410 feet, having passed the sand producting gas at around 1,700 feet.

Cole Field in Duval

George M. Ball is drilling at 2,300 feet in No. 1 Roach in Survey 463, 3 miles east of the Cole Field. In the Cole Field Cole Petroleum Co. has a showing of oil in sand at 1,970 feet in No. 25 Benavides, a mile to the southeast of nearest production. The depth is about 175 feet greater than the producing wells in the field. The Cole's No. 26 on Block 9, of Section 10, an offset to No. 7 well of the Cin-Tex Petroleum Co., is plugging back from 2,025 feet to test out a 35-foot gas sand at 1,746 feet. Houston Oil Co. has set casing at about 2,680 feet where it encountered a new sand in its No. 3 on Block 16 of Section 10. Total depth of the hole is 2,716 feet and 4½-inch casing is being set. The 6⅝-inch casing was set at 1,785 feet, the regular producing horizon of the field and it tested dry. Houston's No. 4 on Block 15 of Section 10 is standing at 1,994 feet. No. 5 is being put on the pump. Barkley-Meadows and Morgan are moving machinery to a 22½-acre strip in the south part of Survey 323 and will spud in within a few days.

Piedras Pintas Field

Humble Oil & Refining Co. is still working with its No. 5 Walsh and will try to make a well at 3,312 feet. The well was drilled to 4,112 feet and tested sev-

(Continued on Page 112)

FORT COLLINS AND SUNBURST WELLS FEATURE IN ROCKY MOUNTAIN AREA

By Frank B. Taylor
Staff Correspondent, Rocky Mountain Area

CASPER, Wyo., June 26.—The Midwest Refining Co. brought in two more large wells the past week, besides several other nominal producers. Both the large wells came from the shallow depth, one a first Wall Creek well and the other a shale well, 1,100 feet deep.

The Mountain Producers found the first Wall Creek sand at 1,008 feet, on Section 26-40-79, and the well started off at over 2,000 bbls. The Salet Creek Consolidated Oil Co. also drilled into a shale production on Section 31-40-78, that is making a little over 1,000 bbls. at a depth of 1,100 feet.

The Salt Creek Consolidated Oil Co. also completed another producer on Section 31-40-79, in the second Wall Creek sand at 2,167 feet that will make 25 bbls.

The Wyoming Oil Fields Co. found a producer good for 50 bbls. on Section 26-40-79 at 1,974 feet. The same firm also has a nominal producer on Section 24-40-79, at 1,467 feet.

The Wyoming Associated Oil Co. brought in a producer good for 25 bbls. on Section 26-40-79, at 1,974 feet and another about the same size on Section 26-40-79 at 1,974 feet. The same firm also brought in a second sand well on Section 14-40-79, at 2,212 feet that will make 25 bbls.

The Midwest Oil Co. and the Wyoming Associated Oil Co. brought in a pumper on Section 36-40-79, at 1,750 feet, and the Midwest Oil Co. has a second Wall Creek well on Section 14-40-79, at 2,073 feet. The same company completed a producer on Section 27-40-79, that will do 35 bbls. naturally at 1,380 feet.

The Mountain & Gulf Oil Co. brought in a second Wall Creek sand well that will make 50 bbls. at 2,317 feet.

LaBarge Extended

The Beneficial Oil Co., operating in the LaBarge Field in Lincoln County, Wyoming, has plugged back the test drilling there to 850 feet and the well will make a producer of 40 bbls. This location is on Section 34-27-113, and extends the LaBarge Field about a mile to the northeast. The Beneficial Oil Co. is still shipping crude by tank trucks to the railroad for shipment to Salt Lake City to the Utah Oil & Refining Co.'s plant there, but it is expected that a pipeline will be laid to the field this summer.

Northeast of the Bair Camp in the Lost Soldier Field, lies a structure that has long been considered worthy of a test. It was leased some 10 years or more ago by the Bunker Hill Oil Co. and a well started, but this well never reached the depth required to make a test of the sands. Since 1918, the structure has been idle, but the Bunker Hill Oil Co. has again started preparations for a well. A string of tools has been purchased and is being moved in.

The Union Oil Co. of California is preparing to drill a wildcat well in Park County, Wyoming, on what is known as the Sunshine Dome. This structure is located on the Wood River near Meeteetse and about 15 miles west of the Grass Creek Field. The structure is considered to hold black oil only.

Two Good Wells in Colorado

The Union Oil Co. brought in two large producers in the Fort Collins Field in Colorado the past week. The Stuchell well, located on Section 7-8-68, reached the pay at 4,640 feet and is making about 1,300 bbls. In the same field, the Elder well of the Union found the Muddy sand at 4,510 feet and started off at about 1,200 bbls. It is located on Section 18-9-68. These two wells have brought up the field production so that some days it runs over the 5,000-bbl. mark.

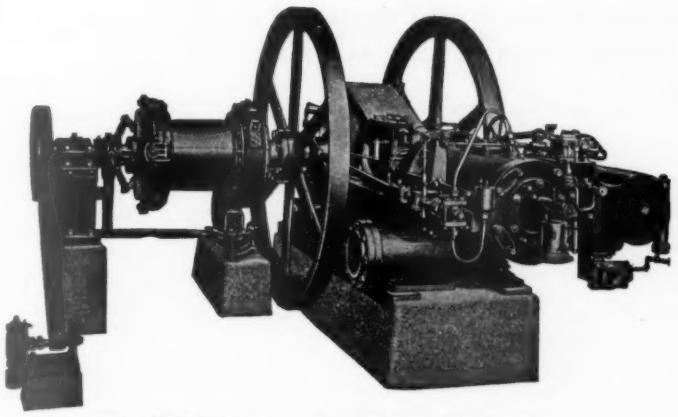
New Montana Sand

In Montana, the new sand found last week in the Pondera Valley Oil Co.'s well on the southeast of the main field, is attracting much attention, the Collins Syndicate, drilling on Section 28-35-1, also found the stray sand below the Sunburst sand and above the Ellis, and containing oil, the well was drilled to the top of the Ellis sand at 1,437 feet but did not drill into the Ellis as a test will be made of the stray before drilling the Ellis.

O'Neil Brothers brought in another big well on the Lashbaugh lease, Section 27-35-2, finding the pay in the Ellis sand at 1,460 feet and the well is estimated at

(Continued on Page 129)

XUM



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South Louisiana Coastal Attraction

Gulf Co. and Standard of Louisiana Find Promising New Pool 6 Miles North of Vinton Pool in Calcasieu Parish

By P. L. McGreal
Staff Correspondent, Gulf Coast Fields

HOUSTON, Tex., June 28.—The South Louisiana section of the Gulf Coast region was the most interesting territory this week. The Vacuum-Gulf joint interests got a 2,500-bbl. well in No. 3 Farquhar in the Lockport Pool, near Lake Charles, Calcasieu Parish, at 4,400 feet. Late in the week it was holding around the initial flow. The oil is 24.6 gravity. Same interests are preparing to test a sand in No. 7 Miller at 4,374 feet, located 600 feet northeast from No. 3 Farquhar.

The Gulf Refining Co. and the Standard Oil Co. of Louisiana are jointly proving up a new dome 6 miles north of the Vinton Pool in Calcasieu Parish and south of Stark, La. No. 3 Industrial Lumber Co. was completed at 3,350 feet, but will not flow and is being rigged to pump. The oil is 25 gravity Baume. Both companies drilled three tests each in proving up the dome and these companies hold all the acreage having possibilities. In this respect it is like the Nash Dome on the line of Fort Bend and Brazoria Counties (Texas) and the Moore, or Orchard, Dome in Fort Bend County. The Rycade Petroleum Corp. has the former to itself and the Gulf Production Co. the latter, which means that all the acreage within gunshot of probable production is leased. The Stark Dome was tested out geophysically before formation holes were drilled. It is a region that has been classed as "suspicious" for years and several tests were drilled there without getting the rock salt.

The Humble-Gulf companies' joint No. 13 Hawes in the Boling Pool, which came in last week making 1,500 bbls. initially at 3,600 feet, is flowing 1,100 bbls. at the close of this week. The Texas Company's No. 9 Taylor is heading 140 bbls. at 3,490 feet and bailing No. 5 at 3,550 feet. The Sun Oil Co. is swabbing No. 11 Taylor at 4,340 feet. The Humphrey Corp.-Oxford Oil Co. abandoned No. 1 Mick, northwest of production, at 4,460 feet in lime and shale.

As a result of these completions and other smaller wells, the estimated daily average gross production for the week is placed at 93,980 bbls., an increase of 3,630 bbls. over last week's estimate.

The South Louisiana districts are credited with 14,065 bbls. of the total and South Texas with 79,915 bbls. The Boling Pool increased 1,100 bbls.; Goose Creek, 360 bbls.; Lockport, 1,900 bbls.; Spindletop, 1,050 bbls.; South Liberty, 265 bbls.; Vinton, 100 bbls.; West Columbia, 200 bbls. The Hull Pool decreased 475 bbls., and Orange 500 bbls.

The estimate for each district is as follows:

District—	Gross Bbls.
Boling	3,200
Batson	1,440
Blue Ridge	775
Big Creek	925
Barber Hill	400
Dayton	60
Damon Mound	900
Edgerly (La.)	750
Goose Creek	10,600
Humble	4,010
Hull	18,850
High Island	90
Jennings (La.)	1,100
Lockport (La.)	5,500
Markham	75
Nash Dome	900
Orange	9,850
Orchard (Moore Dome)	750
Pierce Junction	1,600
Piedras Pintas	75
Spindletop	3,925
Saratoga	1,500
Sour Lake	5,550
South Liberty	5,270
Vinton (La.)	6,640
West Columbia	9,050
Welsh-Anse La Bute (La.)	75
Miscellaneous	120
Total	93,980

Southwest Fields

The estimated daily average in the Southwest fields for the week of June 26 is 38,953 bbls., a decrease of 632 bbls. compared with last week. The loss is largely in the Lockhart (Lytton Springs) Field, where practically no drilling is being done except on a few inside locations. The output of the Mirando district holds steady.

The estimate for each field is as follows:

Southwest Fields

Field—	Gross Bbls.
Luling	21,600
*Mirando	9,450
Somerset	2,050
Calliham	128
Rockdale-Minerva	975
Lockhart	4,750
Total	38,953
Grand total for week	132,933
Grand total last week	129,935
Net increase	2,998

*Includes Webb, Jim Hogg, Zapata and part of Duval County.

The fact that all the available acreage around the new Stark Dome is tied up results in only a nominal interest being displayed by other operators, since there is no incentive to lease or endeavor to operate. The policy of leasing big blocks on and around these suspected domes previous to doing any exploration work, dates back to the advent of the seismograph and torsional balance into the Gulf Coast region some four years ago. The policy was adopted as a matter of safety, since no person could predict what the geophysical tests would develop. The method was costly, but shut out effectually all competitive bidding for leases and consequent offset drilling. As a result rentals were paid on hundreds of thousands of acres that proved worthless.

Recently some of the companies, considering the excessive expenditures incident to such wholesale leasing, changed their methods of handling acreage which they wished to submit to geophysical testing. Instead of blocking 10,000 or 12,000 acres, they would lease small tracts of 20 and 25 acres on and around the "suspected dome" and the seismograph or torsional were set up on these scattered tracts. This policy got a jolt when the new dome, 10 miles south of Liberty on the line of Liberty and Chambers County, was discovered. Two companies "shot" there, one during the day and another during the night. When the geophysical explorations indicated dome formations, the companies doing the work found themselves with practically all the probable good acreage unleased and the news out that the instruments showed a dome. A scramble for the unleased land followed and bonus prices soared, until as high as $200 an acre was paid for purely wildcat land.

As a consequence that dome will probably see some intensive drilling within the next six months.

Other Completions

In the Hull Pool, the Republic Production-Houston Oil Co.'s joint No. 130 Dolbear is making 400 bbls. by heads at 2,350 feet. The Texas Company's No. 10 Merchant showed salt water at 4,300 feet and is drilling deeper. The Texas-Vacuum Oil Co.'s joint No. 2 Hannah will pump at 3,150 feet.

The Orange Pool offers nothing this week. The Brownie Babbittee Oil Co.'s No. 5 McLean is making 80 bbls. at 3,750 feet. The Orange Petroleum Co.'s No. 12 Chesson is only a 12 bbl. well at 4,326 feet. The Rex Petroleum Co.'s No. 4 Carbello is bailing at 3,352 feet.

The Yount-Lee Oil Co. set 6⅝-inch casing in No. 4 Gilbert in the deep sand section of the Sour Lake Pool to test a sand showing oil and gas at 3,990 feet.

The Paggi Oil Co.'s No. 43 Queen at Saratoga is bailing at 850 feet and the Rio Bravo Oil Co.'s No. 5 Fountain, on the north side, is showing oil at 4,295 feet. Its No. 5 Cotton is below 560 feet.

At Batson, the Gulf Production Co.'s No. 168 Wing will pump at 725 feet. The following holes are bailing: Buchanan Oil Co.'s No. 88 Milhome at 825 feet, East Batson Oil Co.'s No. 13 state land at 1,200 feet and Paraffine Oil Co.'s No. 66 Paraffine at 1,010 feet.

The Gulf Production Co. has a 75-bbl. well in No. 28 Davis at Big Creek in Fort Bend County. No. 29 Davis there is drilling around 3,800 feet and No. 11 Wheat is around 3,765 feet.

In the Humble Pool, the Brane Oil Co.'s No. 5 Perkins, within the townsite of Humble, is bailing at 2,655 feet. The Cardinal Oil Co.'s No. 2 is pumping 25 bbls. and Woods and others' No. 7 Wilson is a 25-bbl. well. The Sun Oil Co. is drilling in No. 33 River.

The Sun Oil Co.'s No. 10 Cade at High Island, Galveston County, is heading some at 3,550 feet with the bit in 17 feet of sand. It is on the south side of the dome, between it and the Gulf of Mexico and west of the Gulf Production Co.'s Smith lease. No. 8-C Cade is a deep hole drilling below 4,100 feet. Gulf Production Co.'s No. 2-A Smith is around 1,980 feet and No. 5 at 4,235 feet.

In the old part of the Spindletop Pool, Porch & Trembly's No. 4 Trembly is pumping 100 bbls. at 925 feet, after being deepened.

The Rycade Petroleum Corp.'s No. 3 Flessner, at Nash Dome, is making 240 bbls. at 4,275 feet. The company now has three producers there. It is drilling No. 7 Wisdom at 1,345 feet and No. 8 Wisdom at 1,546 feet. No. 8 Nash is at 2,545 feet. A derrick is standing for No. 9 Nash.

The Sun company is bailing No. 6 Wright in the Goose Creek Pool at 2,500 feet.

South Louisiana

In the Vinton Pool The Texas Company's No. 15 Gray is pumping 20 bbls. at 2,300 feet. The Pelican Oil Co.'s No. 2 Lyons is a salt water well at 3,850

(Continued on Page 115)

TESTING CHEROKEE COUNTY SANDS BIG LEASE PLAY IN EAST TEXAS

By Staff Correspondent

CORSICANA, Tex., June 26.—Garland Kent's No. 1 K. Woolens, J. D. Mathews Survey, on the west edge of the Powell Field, developed into a surprisingly good well when drilled deeper. This well swabbed 190 bbls. the first 24 hours at a total depth of 2,949 feet. It was put on the pump and made 100 bbls. a day for some time. Then the hole was drilled 38 feet deeper and began producing 70 bbls. an hour, total depth 2,987 feet. It is producing from the regular Powell pay.

Five more deep tests will be put down around the new well, according to the latest information. Kent has made an offset location on the same tract, the Simms Oil Co. has made two locations and the Derby Oil Co. has staked locations for two wells, while the Simms Oil Co. and Barkley & Meadows have bought the Whitworth lease of two acres and will start work on an old well on this lease and drill it deeper.

The Whitworth lease had a test put down on it three years ago, but it was not deep enough to strike the pay level at which the Kent well is now producing oil at the rate of 60 bbls. per hour, having come in for that amount Sunday after deeper drilling.

Other deals are pending and several additional locations are expected to be announced soon. Several royalty deals have also been announced as a result of the Kent No. 1, on the K. Wolens farm.

The arrival of Col. A. E. Humphreys from Denver and his moving on to Cherokee County where the Humphreys Corp. has many thousands of acres of leases and two wells drilling at interesting depths was the signal for an exodus from Corsicana and Mexia of scouts and others representing practically all the large companies, because Colonel Humphreys' appearance was taken to mean that something significant was about to happed.

Attention was centered upon the company's No. 2 Clapp on the Jewell Survey, in Cherokee County. The well had reached a total depth of 3,640 feet and it was thought by company representatives that they had reached the Blossom sand. The hole was bailed dry. It had 3,620 feet of casing in the hole and in lieu of liner a screen was set, but the meshes were perhaps too fine and the screen mudded up. Old-time Louisiana oil men in the field expressed the opinion that it was not Blossom sand, and that it looked like the Wolfe City sand, found in Louisiana. The sand is a dark green in color and very tightly packed. Only 1 foot of the 16 feet of sand thus far penetrated showed oil. The company's No. 2 Ousley, on the Dillard Survey, had a sandy shale with light traces of oil and gas at 2,415 feet. It was bailed dry. The Humble Oil & Refining Co. has a likely looking test on the Earle & Ragsdale land, Johnson Survey, in Cherokee County. It found a sand at 2,185 feet which was being cored when the well was last visited. A sandy lime at 2,164-92 feet showed asphalt and gas. In some quarters this test is regarded with much favor. If the Humble should open a pool here it will be in a fine position, as it has a large block of acreage surrounding the well.

Over in Sabine and Angelina Counties, near the Louisiana line, there is a big leasing play. The Roxana Petroleum Corp. is buying and the Pure Oil Co. already has 12,000 acres in that territory. It is reported the Humble Oil & Refining Co. is doing some buying there, too.

The Humble Oil & Refining Co.'s No. 1 Southern Pines Lumber Co., Jones Survery, Anderson County, was drilling below 1,980 feet.

The Magnolia Petroleum Co.'s No. 1 Gentzendammer, Mayfield Survey, Ellis County, was drilling in sandy lime below 1,450 feet.

In Grimes County, the Newblock Oil Co. was drilling below 2,325 feet in No. 1 Freund, O'Connor Survey.

In Limestone County, the Pure Oil Co. was drilling in shale below sand at 3,168 feet, in No. 2 Stockton, Capp Survey, after taking a core at 3,161 feet which contained a slight show of oil.

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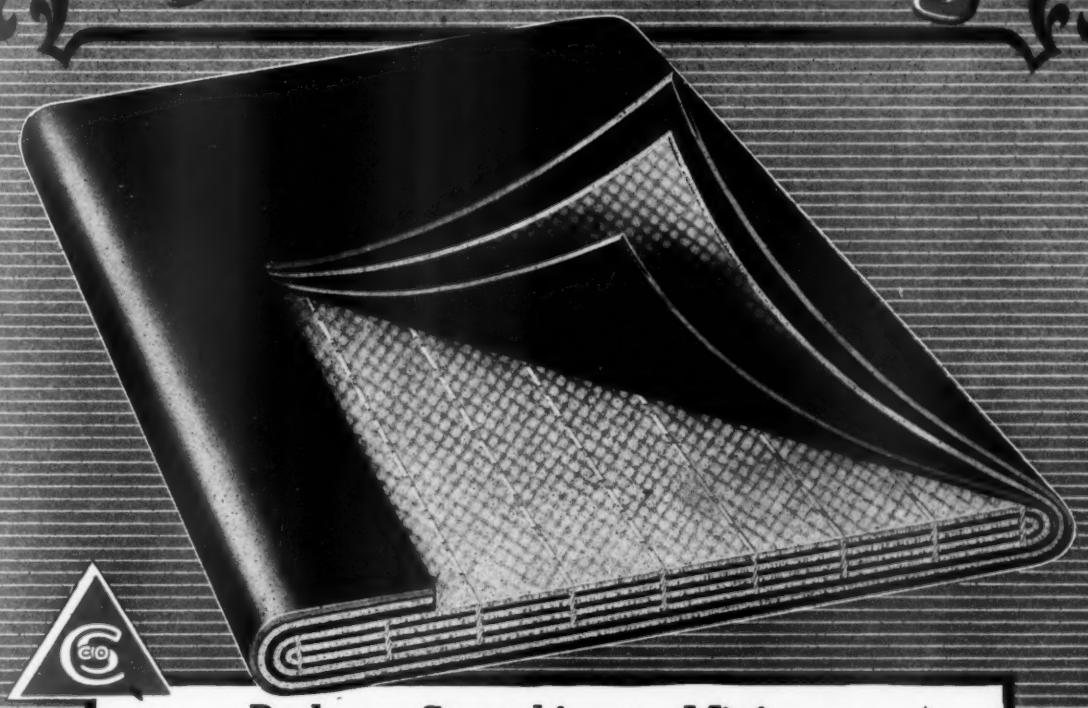

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CONTINENTAL

Allendale Field Well Flows 300 Bbls.

Wabash County, Illinois, Pool Also Has 70-Bbl. Completion. Jay and Adams Counties, Indiana, Have Good Wells

By Whit
Staff Correspondent, Central West Fields

FINDLAY, Ohio, June 27.—There were 54 completions reported in the fields of the Central West during the week in review, the Central Ohio and offside pools leading with 29; Lima Field, 8; Michigan, 1; Indiana 7, and Illinois 9. Of this number 10 were dry holes, 20 were gas wells and 24 were oil producers with a flush of 835 bbls.

The bringing in of a 300-bbl. flush well on the F. M. Leake farm, in the Allendale Field of Wabash Township, Wabash County, brings that field once more to the front, while on the Holson-Dorney lease, same field, a 70-bbl. producer was reported.

The finding of a 2,500,000-foot gas well in No. 25 on the M. J. Baird No. 2 farm, Turman Township, Sullivan County, Indiana, from what is reported the Trenton sand, is a very important find and shows that the Hoosier State still has some gas left. A test in Blue Creek Township, Adams County, same state, shows 35 bbls. and on the Joe Sipe lease, while a well on the Niblick farm in Jefferson Township, same county, is making a fine showing, while the Lowe farm test in Bear Creek Township, Jay County is credited with 25 bbls. and a test on the H. J. Heistand farm, Nottingham Township, Jay County, is credited with 50 bbls. flush.

Michigan is coming along gradually and 10 completions have been made so far in the Saginaw Field, the latest being No. 1 on the Nuermyer farm, showing better than 25 bbls. in the Berea sand.

The Keiser Oil Co.'s test on the Ernst farm, in Liberty Township, Hancock County, made a flush of 20 bbls. under pump the first 24 hours and opens up a slight extension to the old producing area.

Lima Field

One of the interesting strikes in the old Lima Field of northwestern Ohio during the week, was the Ohio Oil Co.'s No. 42 on the Gertrude J. Niles farm, Section 29, Oregon Township, Lucas County, southeast of Toledo along the south Bay Shore. This is the first well drilled for a good many years on this property and shows that the territory is not yet drained, as the new well pumped 20 bbls. The Niles acreage along the South Shore is a large acreage and the new well may bring about an active drilling campaign for a number of miles along the shore of Lake Erie.

In Ottawa County, near Elmore, the Ohio Oil Co.'s No. 8 on the John H. Myers farm, Section 19, Harris Township, pumped 15 bbls. Gust Magsig and Sons are drilling No. 12 on the Charles F. Magsig farm, Section 23. In Benton Township, to the north of the Elmore Field, Gladieux & Herman are drilling a second test on the William Nissen farm, Section 31. In Salem Township, north of the Portage River and just at the western edge of Oak Harbor, the Oak Harbor Natural Gas Co. is delayed by a fishing job at a test on the A. H. Mylander farm, Section 5, Salem Township, same county. Some 15 miles to the east on Catawba Island the Catawba Oil & Gas Co. is drilling No. 1 on the Hasselbart-Smith farm, Section 2, Catawba Township, same county, and is the fourth well for this company when completed. The three wells were all producers.

In Lake Township, Wood County, near Lachta, Lantz, Schulte and others' No. 1 on the Fred Bendt farm, Section 26, close to the big well recently drilled by this firm, failed to hit the crevice and only got a 3-bbl. pumper. In Section 36, same township, R. G. Bowe and others abandoned No. 1 on the Henry Bohansen farm. In the Prairie Deport Field of Montgomery Township, same county, the Ohio Oil Co. pulled out and abandoned old No. 1 on the A. E. Lesher farm Section 22 and No. 19 on the Holliday & Hamilton farm, Section 16. In Freedom Township, same county, the Ohio Oil Co. pulled out No. 84 on the Fuhr & Villwock farm, Section 33 and Nos. 44, 72, 101 and 110 on a part of the same farm, and in Section 34. The same company pulled out No. 8 John Keanaker farm, Section 33, same township.

The Ohio Oil Co. drilled in a 20-bbl. producer in No. 12 on the J. E. Morehead north farm, Section 22, Portage Township, Hancock County. In Liberty Township, the Keiser Oil Co.'s test on the Joe Ernst farm, Section 31, is credited with pumping 20 bbls. the first head. Kirk & Discus are drilling No. 1 on the M. E. Discus farm, same section and hope for a well as productive. In Section 12, same township, Stitt and Sawyer abandoned old Nos. 1, 2 and 3 on the William Sawyer farm. In Eagle Township, same county, Star & Clark's No. 10 Alice Stauffer farm, Section 6, is reported at 25 bbls. and Fuller and Others' No. 16 H. P. Smith farm, Section 18, at 10 bbls. J. M. Satten and others are drilling No. 23 A. and M. S. Deeds farm, Section 6, while R. T. Rittenhouse is drilling No. 4 on the Fred Freed farm, same section. Porter and others are working at No. 23 on the H. S. Haley farm, Section 5.

In Sandusky County, Jackson Township, the Home Banking Co.'s No. 3 S. M. Klutz farm, Section 3, is credited with 20 bbls., a very good well for that part of the field. Mascho, Mascho and Sheets have abandoned Nos. 3 and 4 W. A. Overmyer farm, Section 2; No. 1 William L. Hutchins farm, Section 3 and Nos. 2 and 3 Eli Hufford farm, Section 34. In Sandusky Township, Walters & Erwin pulled out Nos. 2 and 8 Rebecca Fought farm, Section 30. In Washington Township, the Ohio Oil Co. is drilling No. 9 John H. Waggoner farm, Section 30, and the Bee Oil Co. is drilling No. 3 on the Amos Waggoner farm, Section 11.

Near Tiffin, in Liberty Township, Seneca County, Murphy and Sons are drilling a test on the D. Thinker farm, Section 21. In Ridge Township, Wyandot County, the Ridge Oil & Gas Syndicate is drilling a test on the C. A. Cooper farm, Section 12.

Work in the Lima Field is well scattered over a vast number of counties and there will naturally be a nice increase in work as soon as the operators get set. There is also a movement on foot for deeper drilling as it is thought by some operators that much of the old abandoned territory of years ago is still fertile and will prove good if it is properly developed. Considerable work is already being done in this line.

The Oko Oil & Gas Co.'s well on the Heilman farm, in Center Township, Mercer County, is reported showing for 15 bbls. This is in the Mendon Field.

The New York Coal Co.'s second well on the Gilmore-Cockley land, in the Roundhead Field of Hardin County is showing for an average producer for that field, and is bound to become more active as the outlook is for a large producing area. The Roundhead Field as well as the McGuffey Field of this county, was opened by W. P. Smith, a resident of Belle Center who has taken a great interest in the oil and gas development of the county. Mr. Smith has a well in the center of a block of 3,000 acres of leases, which lies within 1,500 feet of the largest summer resort in Ohio, and will do, according to advice, 6 bbls. daily with about 20,000 feet of gas. Natural gas would be an important factor for the large number of cottages along the Indian Lake front.

Wapakonetta parties are drilling a well near the town of St. John, south of the St. Marys reservoir, in Mercer County, while Lynch & Fike are working at a well on the Scott-Howard farm, 3 miles northeast of Uniopolis. W B. Jack and others are putting down a wildcat well 1½ miles southeast of Spencerville, in Spencer Township, Allen County.

In Lots 44 and 45 River tract, Middleton Township, Wood County, Eugene Rhinefrank's test 2,640 feet from the north line and 75 feet from the west line of the Rheinfrank farm, mapped as the Orrin Gillet farm, struck top of Trenton at 1,215 feet and went 85 feet in the sand to a total depth of 1,300 feet, resulting in a 4-bbl. pumper. This well is just 315 feet southwest of an old well drilled by Robert G. Stitt on the same farm and 75 feet south of the Maumee River. It may bring about the drilling of other tests along the Maumee. The Rheinfrank farm is known as the Rheinfrank gold course. The well is just above Waterville.

Late Completions

In Henry Township, Wood County, the Ohio Oil Co.'s No. 44 on the Franks-White, Hamman farm, Section 21, pumped 20 bbls. Top of sand at 1,242 feet and drilled 250 feet in to a total depth of 1,492 feet. In Liberty Township, same country, the same company's No. 11 on the Royal Mercer farm, Section 11, pumped 5 bb's., with sand topped at 1,227 feet and drilled 293 feet in the sand. In Perrysburg Township, Hoffman & Haas' No. 4 in the northwest corner of the William Grolle, Sr., farm, Section 33, pumper 17 bbls. at 32 feet in the sand, the hole being 1,259 feet deep.

In Bath Township, Allen County, C. A. Peavey and others' No. 5 S. H. Vore, Section 12, pumped 25 bbls. with sand at 1,317 feet and oil at 36 feet in the sand. The Oko Oil & Gas Co.'s No. 14 on the J. C. Harbert farm, Section 24, Spencer Township, same county, struck top sand at 1,219 feet and oil at 32 feet in the sand, the well doing 5 bbls.

The Bachelor Oil Co.'s No. 10 on the W. T. Seibert farm, Section 7, Salem Township, Auglaize County, struck sand at 1,140 feet and drilled 50 feet in, the well doing 32 bbls.

In Center Township, Mercer County, Mack P. Colt and others' No. 2 Mose Townsend farm, Section 10, pumped 15 bbls. at 1,177 feet, or 49 feet in the sand. In Butler Township, same county, J. E. Bailey's No. 3 on the Joseph G. Wenning farm, Section 31, pumped 2 bbls. Top of sand at 1,110 feet and 33 feet in the sand. In Hopewell Township, the June Oil Co. found a 1-bbl. pumper at a test in the southeast corner of the Steve Hellwarth farm, Section 27. Sand at

(Continued on Page 100)

PLAN FIFTEEN TESTS AT SAGINAW; TEN WELLS PRODUCING 160 BBLS.

By Whit

SAGINAW, Mich. June 26.—Out of the 10 wells completed in the Saginaw Field, the Saginaw Prospecting Co., the discoverers of the field, have 7; the Bliss Petroleum Co., 1, and the Sun Oil Co., 2 wells. The production of the 10 wells is put at close around 160 bbls., a conservative estimate. One thing in favor of the field is that the oil is produced from the Berea Grit sand which is known for its lasting qualities.

There are at present close to 15 wells under way or getting ready to start and among them some very important ones that will tell a great deal more about the future of the field and the acreage that it will cover.

Wells are now starting that if producers will cover sufficient territory to keep a large number of drills active for many months. Taking the discovery well on the city of Saginaw land, in the southwest quarter of the northeast quarter of Section 14, Saginaw Township, and only a few feet north of the corporate limits of Saginaw, as a starting point, the prospective tests and their distances from the field as it now stands, are as follows, wells inside of the pool not being numerated, only those a distance from the present producing lines:

To the north is the well of the Bliss Petroleum Co., along the west line of the Carl Boldebuck 160 acres and 2 miles almost due north of the discovery well. This is within a few hundred feet of the sand and should drill in within a week or so.

To the northeast the Saginaw City Building Co. is at work on a test on the E. E. Householder farm, in the northwest quarter of Section 12, Carrollton Township, and a little over a mile from the discovery well and three-quarters of a mile from the Sun Co.'s Weiss farm well. To the east and in Section 12, Carrollton Township, W. D. Bergherin is planning to start a well in a few days in the John Winter farm, nearly a mile from the initial well.

Southeast of the discovery well 5 miles and across the city of Saginaw, the Gardner Petroleum Co. is drilling a wildcat on the Schwannecke farm, a mile east of the city on the Hess road. The Local Development Corp. is planning a test on the John Kundinger farm, on the south side of Webber Street just east of the Pere Marquette Railroad toward the city of Flint and about 5 miles from the discovery.

Another remote well from the field proper is to be started at once by Charles Murrin on the Henry Owen farm on the Freeland road, west of the Tittabawassee River, in Section 13, Thomas Township, and fully 5 miles west and 1 mile south of the discovery. Mr. Murrin is an Ohio operator and remembers that 13 years ago he did some work in Saginaw County by drilling a 3,000-foot hole in Section 9, Frankenmuth Township, only to find a duster and has returned to the field in hopes of landing a profitable producer at his present location. This is the farthest west test. William Crowley has the contract.

With the Boldebuck farm test, 2 miles to the north, the Gardner well, 5 miles to the southeast and the Murrin test over 5 miles west, a large area will be tested covering at least a strip 10 miles around. Between the discovery well and the test to be drilled by Mr. Murrin on the Owen farm, there are drilling mid-

(Continued on Page 100)

B&B Patentsteel Drilling Lines

Hit or Miss

Whenever the bit hits, the drilling line gets its share of the shock. Whenever the bit misses, the line is stressed. B & B Patentsteel Drilling Lines are amply strong and elastic to take care of hit or miss.

B & B Patentsteel Drilling Lines are exceptionally pliable, too. You know what this means to a wire rope that must scurry over a crown block and nearly double back on itself in a short distance. "Patentsteel" is soft-laid to prevent kinking. It's a favorite in deep hole districts. Speeds the work and cuts the costs.

Get name of nearest distributor of "Patentsteel" and other good B & B Drilling Lines. Ask also for catalog K2.

Broderick & Bascom Rope Co.

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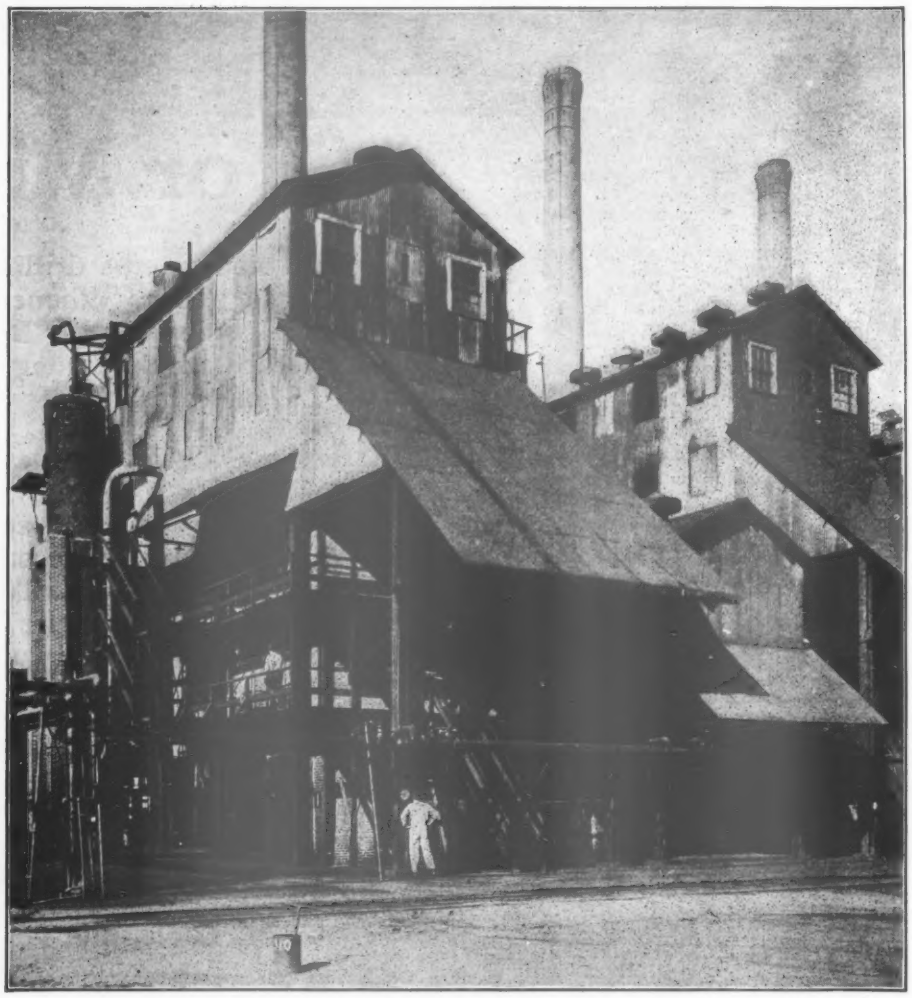

Unit No. 1, at the Port Arthur Works of The Texas Company

In service since February 8th, 1920
Total charge (to March 31, 1926), 1,736,890 barrels

While this is an old type unit and has seen much service, it is still giving excellent results. This unit is now consistently charging over 25,000 barrels per month, although when first designed it was rated at only 15,000 barrels per month.

The Holmes-Manley *Cracking* Process

Designed and built for *lasting* and *profitable* service

The Licensee receives:—

1. *A Proven Process*
2. *Complete Technical Service*
3. *The Benefit of Future Developments*

Licenses Granted by

THE TEXAS COMPANY, U. S. A.

Apply to

R. C. HOLMES, *President*

17 Battery Place, New York, N. Y.

Mingo County Expected to Get Play

Harvey District, in West Virginia, Thought to Have Production But Heretofore Handicapped by Lack of Pipeline

By D. S. Wakenight
Staff Correspondent, Eastern Fields

PITTSBURGH, Pa., June 28.—Most of the few better-than-average completions during the week were located in the deep sand territory in southeastern Ohio.

Probably Mingo County, West Virginia will be the next to claim attention. There is a lot of new work starting in Harvey district. It is thought that the production is there but not until recently have there been any pipeline facilities for transporting the oil to market. The old Colony Oil Co. holds leases on a large acreage and is starting and drilling in seven wells.

But little space is required to mention all the best producers of the week. In the northwest quarter of Section 23, Washington Township, Holmes County, the Pierpont Oil & Gas Co. got a Clinton sand producer at a second test on the O. F. Pierpont farm that placed 40 bbls. to its credit the first 24 hours after shot.

A 25-bbl. producer was the best the West Virginia fields had to offer during the week. It is the South Penn Oil Co.'s No. 5, on the Joseph Belcher farm, in Henry district, Clay County. All other completions were light pumpers, gassers or dry holes.

The southwest Pennsylvania fields completed gassers, located in Greene County.

Late Completions

In the southeast quarter of Section 19, Killbuck Township, Holmes County, the Ohio Oil Co.'s second test on the Rachel Mohr farm, is through the Clinton sand and dry. Just a light showing of oil was developed at this location.

In Lot 14, Hanover Township, Licking County, the Hope Construction & Refining Co. has drilled a second test on the Hanover Brick Co.'s property into the Clinton sand, showing for a good producer.

Athens County

In Lot 14, Athens Township, Athens County, Gross and others have completed in the Berea grit a test on the B. Irwin farm. It is a gasser good for 500,000 feet. In Section 22, Alexander Township, the Biddle Oil & Gas Co.'s No. 7, on the Frank Biddle farm, is a very light pumper in the same formation.

Light Pumper in Tuscarawas County

In the northwest quarter of Section 35, Mill Township, Tuscarawas County, the Stillwater Oil & Gas Co. has completed in the Berea grit No. 3, on the Frank A. Morris farm, good for 5 bbls. a day. In Section 18, Penn Township, Morgan County, 3 miles west of Pennsville, the Swissvale Oil & Gas Co.'s test on the William Hildman farm, is a light gasser in the stray sand below the Berea grit.

Good Producer in Licking

In Section 10, Hopewell Township, Licking County, J. H. Soules and others completed and shot in the Clinton sand a test on the William Coomis farm. The well produced 110 bbls. the first 24 hours. It flowed its production. In the southwest quarter of Section 2, Washington Township, Hocking County, the Ohio Fuel Supply Co. has completed and shot in the same formation a second test on the Carl H. Harden farm. It is 450 feet north of the first test, and good for 45 bbls. a day. In the northwest quarter of Section 4, Green Township, same county, the Red Top Oil & Gas Co. has completed No. 8 on the Chute heirs' farm. It produced 16 bbls. the first 24 hours after shot in the Clinton sand.

In the southwest quarter of Section 18, Richland Township, Fairfield County, F. G. Sharpnack and others have completed in the Clinton sand a second test on the J. F. Huff farm. It is a duster at a total depth of 2,380 feet. In the northwest quarter of Section 33, York Township, Morgan County, the Pure Oil Co.'s test on the E. Mauntz farm, is good for 10 bbls. a day in the Berea grit.

In the southwest quarter of Section 32, Fall Grove Township, Hocking County, the Griffin Producing Co. completed in the Berea grit No. 7, on the Dora Thomas farm. Only a light show of oil was developed and it will be abandoned. In Section 12, Monroe Township, Perry County, John Denman & Son have a light pumper in the Bera grit at No. 21, on the Annie and Mary McGowan farm.

Fair Producer in Perry County

In the northwest quarter of Section 36, Coal Township, Perry County, the Ohio Fuel Supply Co. completed and shot in the Clinton sand No. 7, on the Charles Trimmer farm. It produced 25 bbls. the first 24 hours. In Section 19, Liberty Township, Washington County, W. P. Beeson and others have completed in the stray sand a test on the George B. Epler farm, a light pumper. In Section 8, same township, Heldman & Co. have started to drill a test on the William Heldman farm.

In the southeast quarter of Section 31, Sutton Township, Meigs County, P. S. Clifton & Co. completed in the Berea grit No. 3 on the Ernest McBride farm, showing very little oil and gas. The location is inside of defined limits.

In Hardy Township, Holmes County, the Ohio Fuel Gas Co.'s test on the Elizabeth B. Archer farm, in Lot 16, is through the Clinton sand and shot. It is a 12-bbl. pumper.

In the northeast quarter of Section 18, Fallsbury Township, Licking County, the Ohio Fuel Supply Co.'s test on the Frank Beckford farm is a gasser in the Clinton sand, good for 500,000 feet. In Section 23, Washington Township, Monroe County, the Bentz Oil Co.'s second test on the James K. Howell farm is a light gasser in the Big Injun sand.

On the Ohio River, in Section 21, Newport Township, Washington County, Patterson, Riggs and Todd completed in the Maxon sand No. 6 on the H. R. Greene farm. It is a natural producer, good for 10 bbls. a day. In Section 32, Salem Township, A. J. Wiper and others have a duster in the Macksburg 500-foot sand at a test on the Eliza Craves farm.

In Section 7, Franklin Township, Licking County, Smith & Hazlett have a 3-bbl. pumper in the Berea grit at No. 4 on the Austin Orr farm.

West Virginia

At the head waters of Fishing Creek, Grant district, Wetzel County, the South Penn Oil Co. has drilled No. 1 on the Hays-Higgins farm from the Gordon to the fourth sand, showing for a 12 or 15-bbl. pumper. On Reedy Creek, Reedy district, Roane County, the Ohio Fuel Oil Co. has completed and shot in the Berea grit a test on the Milton Seaman farm. It is a gasser with a light show of oil.

New Work Under Way

In Walker district, Wood County, the Pleasant Hill Oil & Gas Co. has the rig completed for a test on the P. Snyder farm. The Four S. Oil & Gas Co. is drilling at 600 feet on the Ora Bartimus farm. The South Penn Oil Co.'s No. 19, on the Susan Grant farm, is due in the sand. The Congson & Woodyard Oil Co. is drilling at 1,000 feet on the Elgie Grant farm. In Union district, the White Sand Oil Co. is drilling at 1,600 feet at No. 3 on the John Rost farm.

In Paw Paw district, Marion County, the Hope Natural Gas Co. has the rig completed for a test on the Enoch H. Amos farm. In Sherman district, Calhoun County, W. H. and Louis Bickle have a rig up for No. 7 on the Stump heirs' farm. In Center district, Godfrey L. Cabot has a rig up for a test on the Jessie Ward farm. In DeKalb district, Gilmer County, C. W. McCall has a rig up for a test on the Jerusha Stalnaker farm. The Philadelphia Oil Co. is starting its No. 4 on the D. Stalnaker farm.

In Union district, Tyler County, the Cameron Oil & Gas Co. has the rig completed for a test on the M. J. Virden farm. The American Oil Development Co. has a rig up on the M. Carroll farm. Albert Neely has a rig completed on the W. J. Rice farm.

On Millstone Creek, Lee district, Calhoun County, the Hope Construction & Refining Co. has completed in the third salt sand a test on the B. Coss farm, good for 5 bbls. a day. In Union district, Pleasants County, Albert N. Neely has completed a test on the Waldo Wagner farm. It is a duster in the Cow Run sand.

Clay County

The South Penn Oil Co. has completed No. 6 on the Joseph Belcher farm, in Henry district, Clay County. It is not good for more than 10 bbls. a day, which is smaller than the average well in this development. Some three or more wells are due in the sand and when completed should increase production.

In Ten-Mile district, Harrison County, Burke & Lynons have now drilled their test on the W. T. Williams farm through the Gordon sand. It is a gasser. In Reedy district, Roane County, the Ohio Fuel Oil Co.'s test on the J. M. Seaman farm is a gasser in the Big Injun sand.

In Liberty district, Marshall County, the Manufacturers Light & Heat Co.'s test on the Sanford Huggins farm is dry in all sands. In Center district, Calhoun County, the Hope Natural Gas Co.'s test on the S. M. Geho farm is a gasser in the Berea grit. In DeKalb district, Gilmer County, McCall & Co. have a Big Injun sand gasser at a second test on the W. W. Wright farm.

Wood County

At the head waters of Worthington Creek, Union district, Wood County, the Pinacle Oil & Gas Co. has completed in the second Cow Run sand a test on the A. F. Stagg farm. If it makes any kind of a producer it will be very small. It is more than a mile in advance of production. In the Plum Run Field, Williams district, O. E. Grow has completed No. 7, on the Timothy McAtee farm, good for 2 bbls. a day. The Pittsburgh & West Virginia Gas Co. drilled through the Big Injun sand its test on the Jacob Spiker farm. It is a gasser. In the same district, the Carnegie Natural Gas Co. has the rig completed for another test on

(Continued on Page 128)

HOPEWELL POOL, SULPHUR CREEK, AND LECTA POOL LEAD KENTUCKY

By Whit
Staff Correspondent, Kentucky-Tennessee

GLASGOW, Ky., June 28.—The surprise strikes of the week in the Kentucky petroleum fields were made in the Hopewell Pool, in the Crocus Creek district and the Sulphur Creek district of Cumberland-Monroe-Adair Counties, and they are large to bring about a real active drilling campaign.

The best completion made for some time in any section of the Blue Grass State was the test on the F. Baker farm, about 1,000 feet from the Grider farm producers in the New Hopewell Pool along the Cumberland-Adair line, in the Crocus Creek district, reported late last week. This well found its big pay 150 feet below the Pencil Cave and was reported good for a flush of 750 bbls. In the same area, the well on the E. H. Brockman farm, is said to be producing at the rate of 15 bbls. per hour from a shallow depth of 300 feet. In the Sulphur Creek district in Cumberland County, W. S. Raydure & Son's No. 5 on the M. E. Coop farm, which was a nice producer at 837 feet was drilled to a depth of 875 feet where the well is doing 10 bbls. per hour and holding at that figure. Wells of the caliber of the three are sufficient to bring about a big development in that section of the State.

In the Owensboro District, No. 11 on the Lucida E. Crowe lease showed 25 bbls. and a second test on the Ward farm 25 bbls.

Barren County made an improved showing with No. 7 on the C. B. Jones lease in the Lecta Pool producing better than 50 bbls.; a 20-bbl. pumper in No. 23 H. W. Duff lease, in the Hall Baker Pool; a 20-bbl. pumper in No. 6 W. E. Steffey lease, in the Emery-Moore Pool, and a 25-bbl. pumper in No. 7 on the White lease, in the Knob Road district. Wells in other counties of the State were only average producers sprinkled with a very few dry holes or gas wells.

During the week a total of 26 completions were reported from the Kentucky fields, 22 being oil wells with a flush of 1,588 bbls., 3 dry holes and 1 gas well. This is an increase from the previous week's figures of 4 completions, 1 gas well, 1,428 bbls. more flush production, while dry holes showed a decrease of 3. These wells were distributed among the various counties as follows:

	Comp.	Wells	Prod. Prod.	Dry	Gas
Cumberland-Monroe	8	7	1,373	1	0
Barren	5	5	123	0	0
Allen	4	2	3	2	0
Warren	3	3	18	0	0
Lawrence-Johnson	3	3	21	0	0
Owensboro Dis.	2	2	50	0	0
Floyd-Knott-	1	0	0	0	1
Total	26	22	1,588	3	1
Last week	22	16	160	6	0
Difference	4	6	1,428	3	1

General Conditions

Owing to weather conditions it appears that the average Kentucky operator has not yet struck his stride in development work but the summer season passes rapidly and if work is not started soon the fields will not get the play expected. In the southern portion of the State, the counties of Cumberland, Monroe and Adair are the most in the limelight owing to the big shallow sand wells being discovered where least expected. Cumberland County has always been a hit and miss affair but the hills have shown some remarkable wells and if good pipeline facilities were in the county there would be a larger development. The new Hopewell Pool along the division line of Cumberland-Adair Counties has no facilities for marketing its production which is growing rapidly and the inability to market the crude has delayed operations to a great extent. There is hope of some one putting in a gathering line in the near future. There was talk a few weeks

(Continued on Page 106)

Compare a Bessemer With Any Other, Point by Point

THERE is only one conclusion possible after a point by point analysis of a Bessemer compressor with others—they are *better* built units with a much higher operating and compression efficiency—horsepower for horsepower, inch for inch displacement.

On both the Two Cycle and Four Cycle units typical Bessemer crosshead construction with adjustable shoes and bearings, is used throughout. All bearings are extra large, all parts are over strength, and the complete units are entirely enclosed with all parts made easily accessible for adjustment or replacement.

The compressor cylinder is the new, improved Bessemer type used on all Bessemer direct driven compressor units. These cylinders have a compression efficiency unequalled by any other cylinder and they retain their high initial volumetric efficiency without repair or replacement during remarkably long periods of service.

In every detail of engineering and construction, as a point by point operating comparison will show, Bessemer direct driven compressors (both Two Cycle and Four Cycle) are far in advance of even the next best.

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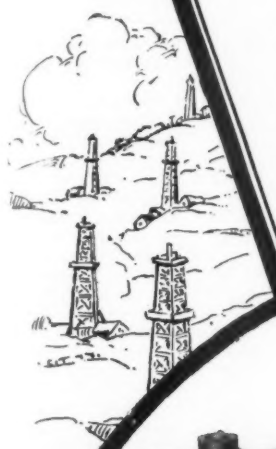
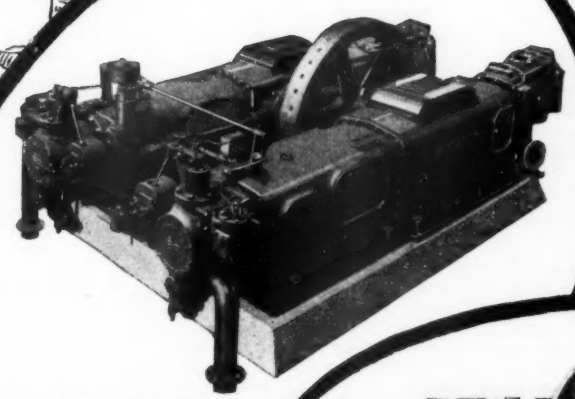
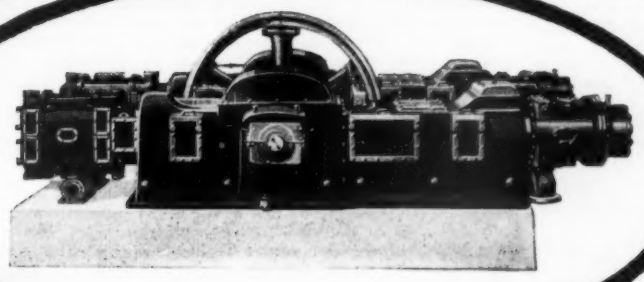




Bessemer Four Cycle Compressors have a remarkably simple valve assembly which assures high engine efficiency, low fuel consumption and trouble free service. They are ruggedly built to deliver years of uninterrupted service.



Bessemer Type Ten Two Cycle Compressors are the standard of the natural gasoline industry. Their running time is consistently 99% plus, and their maintenance almost nil.

BESSEMER COMPRESSORS

Natural Gas Developments

BEGIN LONE STAR LINE TO PANHANDLE FIELDS

WICHITA FALLS, Tex., June 26.—Work has been begun on the first unit of the Lone Star Gas Co.'s 18-inch pipeline between Wichita Falls and the Panhandle gas fields near Shamrock. The first stretch between Wichita Falls and Vernon is being laid just north of Wichita Falls and extends several miles westward along the Fort Worth and Denver tracks toward Iowa Park.

A large crew employed by the Oklahoma Construction Co., building contractors on the line, is at work unloading and placing pipe. A construction camp to house 163 men has been pitched north of the Iowa Park road, about 3 miles from Wichita Falls. Four carloads of pipe were being unloaded by the crew. Other pipe is said to be spotted in the railroad yards at Iowa Park.

The new line begins north of the Wichita River east of the Primrose refinery and goes westward along the northern outskirts of the city. Out of the city the line moves south and follows the highway for a considerable distance. Tunnels and conduits have been placed under the pavement and railway tracks at a point where the line moves south of the tracks, about 5 miles from the city. From that point the proposed right of way follows the track until it reaches the Iowa Park city limits. The line will follow the Fort Worth and Denver railway and will circle all the cities along the line, it is understood.

Ditching and actual construction will begin at an early date, it was announced. Trucks, ditching machines and other equipment will be on the ground in a few days.

TO USE PANHANDLE GAS

OKLAHOMA CITY, Okla., June 26.—The city commission at Lubbock, Tex., has granted a natural gas franchise to A. J. McMahan and associates of Oklahoma City, who purpose laying a pipeline from the Panhandle and a distributing plant that are to be completed by the end of the year. They have applications pending for franchises in several other towns of the south plains area of Texas. Competition has developed at Plainview where a franchise is being asked by F. M. Foster of Amarillo. Representatives of the Oklahoma City men say gas will be secured in Hutchinson County and that their original trunk pipeline will be laid to Amarillo. They have secured a franchise at Slaton, in the south plains. Among other towns they propose to serve are Canyon, Happy, Tulia, Kress, Plainview, Hale Center and Abernathy.

OVER SUPPLY OF GAS

CHATHAM, Ont., June 26.—The problem of what to do with the vast quantities of natural gas that will be available if several more wells like No. 4 Royalite are brought in on the Turner Valley anticline is engaging the attention of Imperial Oil, Ltd. officials, according to President C. O. Stillman. Mr. Stillman, with a number of officials of the company, visited Calgary recently in the course of his annual transcontinental tour of inspection.

LONE STAR GAS DIVIDEND

Lone Star Gas Corp. (Del.) has declared an initial dividend of 37½ cents on the new stock (par $25), payable June 30, to stock of record June 21. This is equivalent to 62½ cents on Lone Star Gas Co. stock, which received 1⅔ shares of corporation stock for each share. The old stock paid 50 cents quarterly.

TERMS OF OKLAHOMA NATURAL SALE AS SUBMITTED TO STOCKHOLDERS

President H. Heasley of the Oklahoma Natural Gas Co. has issued the following letter to the stockholders:

"To the Stockholders of the Oklahoma Natural Gas Co.:

"Notice is hereby given that a special meeting of the stockholders of the Oklahoma Natural Gas Co. will be held at the office of the company in the city of Tulsa, Okla., on Thursday, the first day of July, 1926, at 10 A. M., for the following purposes:

"1. To approve or disapprove a proposed sale of the entire property and assets of the company, which has been approved by the board of directors, upon the following basis:

"(a) A new corporation is to be organized for the purpose of acquiring and operating such assets and properties. That new corporation will be authorized to issue forthwith its first mortgage sinking fund 6 per cent bonds of the face value of $15,000,000, its convertible sinking fund 6½ per cent debentures of the face value of $6,000,000, its 7 per cent cumulative preferred stock of the par value of $2,100,000, and 500,000 shares of its common stock of no par value.

Terms of Sale

"(b) Oklahoma Natural Gas Co. will receive for its assets and properties $7,870,000 in cash, $12,500,000 of the said first mortgage bonds and 26,000 shares of the common stock of the new corporation. Of the cash so received $1,780,000 will be immediately applied to the satisfaction of the company's indebtedness to that extent. All other indebtedness and liabilities of the company (except Federal tax liabilities) will be assumed by the new corporation. The stockholders of the company are to receive the current earnings of the company from January 1, 1926, up to the date of the proposed sale but not in excess of 8 per cent of the par value of their stock.

"(c) Two hundred and forty thousand shares of the common stock of the new corporation will be reserved for conversion of the debentures aforesaid.

"(d) Of the presently issuable securities of the new corporation, not in excess of $2,500,000 face value of first mortgage bonds, $6,000,000 face value of the debentures $2,100,000 par value preferred stock and 234,000 shares of common stock will be issued in such manner and for such considerations as may be determined by the new corporation for the purpose of furnishing the cash required to make the said purchase, of providing working capital and management, or for other corporate purposes, and to provide $1,000,000 cash for the acquisition by the new corporation of the Kingwood pipeline property.

"2. To ratify, confirm and approve the action of the officers and of the board of directors in entering into a contract on behalf of the company with new interests under which the company agrees to sell all of its properties and assets under the basis hereinabove set forth and to take all necessary or proper action to consummate such sale.

"3. To consider and vote upon the question of the dissolution of the company.

Manner of Distribution

"4. To consider and approve or disapprove the distribution to the stockholders of the company, at such time or times and in such manner as shall be determined by the board of directors (but not later than July 1, 1927,) of the proceeds of the sale (either in kind or after converting into cash all or any part of the first mortgage bonds and common stock of the new corporation) so to be received by the company in the event of the consummation of the proposed sale of the assets of the company and, or in the event of the dissolution of the company; and without limitation of the foregoing general authority to the board of directors specifically to authorize such board to sell forthwith, or at any time, $2,500,000 of said first mortgage bonds, at such price as they shall determine, to provide funds to be used in such distribution to make cash disbursements (to the extent and upon terms deemed advisable by such board) in lieu of distributing the new securities in kind to holders of small lots of the stock of the company who elect to take cash and, or to stockholders who otherwise would be entitled to fractional interests in such securities.

"5. To transact any other business in connection with the foregoing purposes, or that may legally come before the meeting, including the right to adjourn from time to time, if the stockholders present in person or by proxy so determine.

"H. HEASLEY,
"President."

KANSAS GAS INQUIRY ORDER BY COMMISSION

TOPEKA, Kans., June 26.—The Kansas Public Service Commission plans an order for an investigation of the entire scope of the sales of natural gas for industrial purposes in Kansas. While the investigation is intended in the main to place the Wichita Gas Co. and the Atchison Gas Co. on the same basis in selling industrial gas in Wichita, Newton and Hutchinson, the investigation is made state-wide to provide against similar conditions in other towns.

The commission issued formal order reducing rates in Wichita, placing the entire sale of gas on a "step scale," starting with a $1 minimum charge for the first 1,000 cubic feet of gas a month, 55 cents a thousand for the next 4,000 feet, and graduated down to 18 cents a thousand for more than 2,000,000 feet a month.

This order applies to the Wichita Gas Co., owned by the Doherty interests, only, and by itself would leave the Atchison company in a position to continue selling industrial gas at low rates to apartment houses, restaurants and others that the commission contends are getting gas for domestic purposes, largely in domestic quantities, at industrial rates. The investigation plans the placing the sale of natural gas on the same basis for all competing companies.

What the commission has in mind is basing the sale price of gas on quantity used a month, instead of on an arbitrary definition of "domestic" and "industrial" gas. The commission points out in the Wichita order that under the present system domestic consumers in Wichita are getting domestic gas at industrial rates, while the bulk of them are paying the domestic price.

In its order the commission directs the Doherty distributing company, which now is paying the Doherty Pipe Line Co. 40 cents a thousand at the city gates for gas intended for domestic sale, to buy this gas at 20 cents a thousand. The commission takes the view if the local company cannot buy it for 20 cents from the parent company, it can buy it for that price from some other source.

In its order the commission presents figures which it says show that by buying industrial gas from the pipelines for 14 cents a thousand, and domestic gas at 20 cents a thousand, the Wichita distributing company can make a return of 7.34 per cent on an investment of $2,450,000. Attorneys for Doherty have served notice they intend to fight the rate reduction in the courts, on the ground the commission has not jurisdiction over the pipeline company or pipeline charges to the distributing company, and that in fixing the price the distributing company shall pay the commission is in effect trying to fix the price the pipeline company shall charge. And the pipeline company, the Doherty interests content, is solely under the jurisdiction of the Federal courts when proper proceedings are brought there by the company to get the rates it believes it is entitled to.

Following the announcement of the commission's intention to issue the rate reduction order for Wichita, the city of Topeka served notice it would ask reduced rates also. Topekans now are paying a 75-cent a month service charge plus 80 cents a thousand feet for gas used. The Wichita order abolished the 75 cents a month service charge at Wichita.

HOPE NATURAL ADOPTS REPRESENTATION PLAN

PITTSBURGH, Pa., June 26.—The industrial representation plan, which has been in operation with the Standard Oil Co. of New Jersey and certain subsidiaries, was placed in operation by the Hope Natural Gas Co. at a meeting held at the William Penn Hotel here, the first annual joint conference of the representatives of the employes and the management. The conference was composed of 43 representatives elected by the employes and the same number of representatives of the management, in addition to the officers.

The object of the industrial representation plan is to bring about a closer cooperation between employes and management. Since adopted by the Standard Oil Co. of New Jersey the plan has proven very satisfactory to all concerned.

George H. Jones, chairman of the board of directors of the Standard Oil Co. of New Jersey; H. C. Hicks, chairman of the personnel management; T. H. A. Tiedoman, assistant to Mr. Hicks; Christy Payne, president of the Hope Natural Gas Co., and other officials were in attendance.

HE LEFT GAS BURNING WHEN WIFE WAS AWAY

Frank L. Dame, president of the North American Co., describes what he considers the first case on record of a customer's paying a gas bill and immediately asking for a second one. The case was reported by the management of a North American subsidiary.

"The bill I have just paid is rather large, and I would like a smaller one to take home to my wife," explained the customer. "The reason the bill I paid is so large is because while my wife was away last week I cooked a breakfast for myself. Then I went away for a business trip that lasted four days and when I returned I found the gas still burning. Now I must have a small bill to show her."

10,000,000-FOOT GASSER

The largest gas well in Muskogee County, Oklahoma, in years was recently brought in by Ed Hutchinson, of Muskogee, on the B. Mason farm, SE cor. NW NE, Section 31-15-15, southwest of the town of Haskell. It was estimated at 10,000,000 feet. The gas is from sand at 1,558-65 feet. In the CSL NE SE, Section 30-15-15, Culp and others were drilling at 1,400 feet when this was written, in their No. 3 Vanderslice.

Zero Hour Electric Bomb

Useable
Under Any Condition

While Zero Hour Electric Bomb can be used under conditions which render other methods of detonation hazardous or impossible, its features of safety and dependability is causing it to be adopted by many producers for ALL shots, the ordinary as well as the unusual.

Rugged

Zero Hour Electric Bomb is made to withstand the customary hazards of transportation and lowering into a well; the watch is the best that can be obtained for this purpose; the battery has sufficient power to explode ten caps—two are furnished; one is sufficient for detonation.

Reliable

Zero Hour Electric Bomb is made under careful supervision and by skilled workmen. Every part is tested before and after assembling to assure reliability. Additional tests are made just before lowering. It is as reliable as human experience can assure.

Dependable

Our records, covering every shot placed with a Zero Hour Electric Bomb, show that the Bomb explodes on the average within two minutes of the time intended. Mr. Porter had never seen a Zero Hour Electric Bomb until this one was shipped him.

Safe
Simple

There is nothing complicated about Zero Hour Electric Bomb. Complete instructions go with every bomb. Any man accustomed to handling explosives and who can follow simple directions, can use Zero Hour Electric Bomb without danger to person or property.

BE ASSURED OF BY GETTING

CLYDE C. PORTER
MAKER OF NITRO-GLYCERIN
SHOOTER OF OIL AND GAS WELLS

Box 112,

Paintsville, Ky.

May 2, 1926.

Attached is shot report for one of your Zero Hour Electric Bombs. It played its part to the satisfaction of all concerned in a very peculiar and difficult shooting job here in the Eastern Kentucky field.

After working with this well for nearly a year one of the owners conceived the idea of placing a shot down beside the parted casing, and got in touch with me. I told them that I would place the shot but would not guarantee to put it off under so much fluid (1000 feet of salt water) with an ordinary drop jack. Any kind of a wire shot was not wanted because it was desired that the hole clean itself. I explained to them that a ZERO HOUR ELECTRIC BOMB was the only feasible method of detonation.

Your bomb was received and used the same day taken from the express office. It was not even opened until I arrived at the well. Instructions were read, mechanism tested with caps, and watch set to running while shot was placed in the hole. The bomb watch ran to a second with my watch, which is saying quite a bit after such a journey by express. After shot was placed, bomb was assembled, set for one hour, and lowered into well. It detonated shot in one hour, three and one-half minutes; this slight deviation being due to not setting on exact hour. THIS GOES TO SHOW THAT YOUR BOMB IS PRACTICALLY FOOL-PROOF, and that anyone who can follow your printed directions can successfully use it.

Yours very truly,

Clyde C. Porter

Above are extracts from a two-page letter written us by Mr. Porter; the unessential details have been omitted.

Write for Free Literature

ADDRESS TULSA OFFICE

ZERO HOUR TORPEDO COMPANY

710 Cosden Bldg., Tulsa, Oklahoma | 100 S. Poplar St., Eureka, Kansas | P. O. Box 2100, Casper, Wyoming

Also Manufacturers and Marketers of

Zero Hour Vitroid Shell

A Non-Metallic Shell for Glycerine and Gelatin

Frictionless Shatters Under Discharge Leak-Proof

MEN KNOWN IN OILDOM

Harry L. Nolan

Harry L. Nolan, of St. Louis, Mo., sales manager of the Continental Supply Company, is one of the oldest members of that company's large and well balanced organization. He entered the service of the company in 1912, in Tulsa when the Continental had only a few stores scattered through the oil region and Mr. Nolan grew with the company. Six weeks after having joined it he was in charge of a department of the general offices in St. Louis. Six years ago he was placed in charge of sales. He is regarded as one of the most aggressive men in his line in the Mid-Continent territory, and he has made many friends for himself and his employers in the international territory now covered by the Continental.

Harry L. Nolan was born in Chicago, Ill., on February 29, 1888, but the Nolan family moved to Bradford, Pa. very early in Harry's career, and it was in that city he was reared and educated and gained his first experience in the supply business. After graduating from the Bradford high school he entered the employ of Bovaird & Company and later went to the Bovaird & Seyfang Manufacturing Company, first as a bookkeeper and later as a branch store manager in Illinois while that field was yet one of the leading oil territories of the United States. He remained in Illinois until the end of the boom days and then decided to cast his lot in the then rising Oklahoma Field and there his connection with the Continental Supply Company began.

PERSONAL PARAGRAPHS

Ira G. Wetherill was a business visitor from Independence, Kans.

* * *

Mr. and Mrs. C. Burton Sage, of Toledo, are spending some time at Hot Springs, Ark.

* * *

Henry Gregory, who has been in the Mexican oil fields for the past year, has returned to Petrolia, Ont.

* * *

G. O. Campbell, representing the Deepwater Refineries, Incorporated, was a recent Shreveport, La., visitor.

* * *

J. L. Dittman of Bartlesville, Okla., district manager of the Wall Rope Works, is calling on the trade in the Texas Panhandle.

* * *

C. G. Carlson, of Tulsa, a geologist on the staff of the Sun Oil Company, is in Saginaw, Mich., investigating the Saginaw Field and studying its development and prospects.

Sam D. Hunter, Shreveport, La., producer, made a business trip consuming several days, through south Arkansas, last week.

* * *

M. W. Richardson, Tulsa, Okla., and of the Spencer Petroleum Company, made a brief business trip to Shreveport, La., recently.

* * *

Dr. J. M. Farragher, formerly of the Mellon Institute and now with the Universal Oil Products Company, was a Tulsa visitor last week.

* * *

Mr. and Mrs. Thomas Deacon and son, Wesley, have returned to Petrolia from the Venezuela fields. They will return to Venezuela about October 1.

* * *

J. A. Rule, Atlanta, Ga., representing the Crown Central Petroleum Corporation, spent several days in Shreveport, La., last week on a business trip.

* * *

W. G. Skelly, president of the Skelly Oil Company, is in New York on a business trip with C. C. Herndon, vice president and general counsel of the company.

* * *

C. P. McKeizer, formerly with the Western Iron & Foundry Company of Wichita, Kans., has joined the sales force of the Cunningham Company of Tulsa, Okla.

* * *

Michael Foley, John Casey, Vincent Mulvaney, Patrick Sullivan and Patrick O'Connor, all oil men, of Casper, Wyo., attended the Eucharistic Congress ceremonies at Chicago.

* * *

George H. Eells, district manager of Continental Supply Company, Marietta, Ohio, is spending some time in the western Kentucky Field, making headquarters at Bowling Green.

* * *

Mr. and Mrs. W. W. Wilson, accompanied by their two daughters, have left Los Angeles for a trip to Hawaii, sailing on the City of Los Angeles. They will be away for about seven weeks.

* * *

Emil Opferkoch, salesmanager of the Superior Gas Engine Company of Springfield, Ohio, is making a trip through the Mid-Continent and Gulf Coast fields. He also visited the Texas Panhandle.

* * *

L. J. King, vice president of the Associated Oil Company, has just been elected a director of the Marine Oil Corporation, one of the progressive producing and refining companies on the Pacific Coast.

* * *

During the absence of Joseph McGinity, who is taking a trip to the South American oil fields, Lew N. Deutsch of Wilson Oil Tools Corporation's Los Angeles office, will take his place at the company's Fort Worth office.

* * *

I. R. Collier, chief engineer of the Mid-Kansas Oil & Gas Company, of Tulsa, Okla., has been in Live Oak County, Texas, south of San Antonio, resurveying a lease block of the company at Fant City, preparatory to a test being started.

* * *

S. T. Hale, who has been in Maracaibo, Venezuela, for two years drilling for the Gulf Refining Company, is now in San Antonio, Tex. He is planning to remain in the southwest Texas territory and get into the oil business there.

* * *

C. N. Housh, geologist for the Gulf Production Company at Laredo, Tex., and Miss Clarabelle Mansfield of Bandera, Tex., were recently married and are now on a wedding trip to California. They will make their home in Laredo.

* * *

G. L. Estabrook, Philadelphia, Pa., and president of the Crystal Oil Refining Corporation, spent several days recently in Shreveport, La., inspecting company properties. He was accompanied on the tour by H. A. McCarthy, general attorney for the corporation.

* * *

The Reading Iron Company has opened a sales office in Houston, Tex., with R. D. Oberwetter in charge. Mr. Oberwetter was formerly in the purchasing department of the Humble Oil & Refining Company at Houston. The district office will cover south Texas and Louisiana.

Clarence M. Fuller, president of the Richfield and United Oil Companies, has left Los Angeles for New York for the purpose of purchasing additional refinery equipment included in which will probably be some more Cross cracking units.

* * *

Dr. and Mrs. James W. Decker of New York were in San Antonio, Tex., looking over the oil development. Mr. Decker is vice president of the Andrews Petroleum Company, which is shipping a carload of casing to its Callahan County lease where is has opened a new shallow field.

* * *

Announcement has been made of the transfer of M. J. Grogan of the Louisiana Oil & Refining Corporation, to the executive department, retroactive to June 15. Mr. Grogan was formerly manager of the sales division and through his promotion he is assistant to the vice president.

* * *

W. P. Clark of Kansas City, Mo., manager of the southwestern districts of the Sherwin-Williams Company, is making a trip through the Mid-Continent Field. Mr. Clark pioneered the oil industry for the Sherwin-Williams Company and has many friends in the oil business in widely different fields.

* * *

Victor H. Kelly, of the Union Oil Company, has been given entire responsibility over the northwestern division comprising the districts of Alaska, British Columbia, Alberta, Seattle, Spokane and Portland, and will hereafter function as a division manager responsible direct to Los Angeles office.

* * *

W. T. Cushing, a former pipe line official, now agent for the Dearborn Chemical Company, handling protective coatings for pipelines, is in Houston, Tex., from Shreveport, La. Mr. Cushing has the contract to "dope" the gas line being laid from the Monroe (La.) gas fields to the Baton Rouge refinery of the Standard Oil Company of Louisiana.

* * *

J. N. Foster, who for 18 months has been manager of the distributing office of the Standard Oil Company of Louisiana at Little Rock, Ark., has been transferred to managership of the Nashville, Tenn. office. J. T. Rhodes, formerly district supervisor for the company at Jonesboro, Ark., succeeds to the Little Rock station. The company recently opened its fifteenth filling station in Little Rock. It has 24 in Nashville.

* * *

John Ley, for 50 years in the oil field supply trade, was tendered a complimentary dinner by prominent citizens of Bradford, Pa., on Tuesday, June 22. Mr. Ley accumulated a fortune through his connection with the oil business and he has wisely disbursed much of it in practical charity and in other useful ways. The dinner was staged by his fellow townsmen to give them an opportunity to publicly express their appreciation of Mr. Ley's philanthropy.

* * *

General Manager W. L. Connelly, of the Mammoth Oil Company, and Lieutenant Commander W. H. Osgood, in charge of the Navy Department's interests in the Teapot Dome, returned to Casper, Wyo., after an extensive trip through the Oklahoma and Kansas oil fields where they examined different methods and apparatus for extracting gasoline from natural gas. A conference was held in Cheyenne between these officials and the New York Oil Company to determine a plan for extracting gasoline from all the Teapot Dome gas. The New York Oil Company has the contract for using the Teapot Dome gas.

* * *

Daniel J. Danker, of Brookline, Mass, was a Tulsa visitor in the past week. Mr. Danker is a veteran producer in the Wyoming fields and one of the best known oil men in the Rocky Mountain region. He spends much of his time in Casper, Wyo. He visited the Phillips Petroleum Company's Burbank producing properties and casinghead gasoline plants while in Oklahoma, and then departed for Amarillo to look over the Texas Panhandle fields. Mr. Danker was a chemist before he became an oil producer. He is interested in the peculiar constituency of Panhandle crude oil and may prosecute a series of experiments looking toward the conversion of the waxy and sulphur-laden oil into good all-the-year pipeline crude.

"OILWELL" *HERCULES* STEEL SUCKER RODS

"OILWELL"

Originated the Upset Steel Sucker Rod Made From One Piece of Steel and WELDLESS

Features of

"OILWELL" Hercules Steel Sucker Rods

1. Free wrenching which saves labor and time, also eliminates the freezing of threads.
2. Friction joints—Hercules Joints "shoulder up" readily and are easily locked with wrenches, thereby eliminating unscrewing in the well.
3. Fillet at pin base gives additional strength to pin.
4. Counterbore in boxes keeps sand from accumulating on joint shoulder when "setting up."

"OILWELL" Hercules Steel Sucker Rods can be furnished in two styles—box and pin, or pin and pin with couplings. They are practical in design, sturdy in construction and efficient in service. Popular sizes are carried in stock at all district points.

"OILWELL" EST'D 1862 TRADE MARK REGISTERED

Inquire at any of our 100 Branches

OIL WELL SUPPLY CO.

NEW YORK—LOS ANGELES—PITTSBURGH, U.S.A.—SAN FRANCISCO—TAMPICO—LONDON

WORLD'S OLDEST AND LARGEST MANUFACTURERS OF OIL FIELD EQUIPMENT

EQUIPMENT AND SUPPLIES

FIRST OIL-ELECTRIC FOR WESTERN ROADS

Typical of the spirit of the West has been the aggressive interest shown in the recent appearance of an oil-electric locomotive on the Chicago and Northwestern Railway, the first to go into service on any western railroad system. The everyday performances of this smokeless and noiseless newcomer in railroad motive power are being watched by railroad men everywhere throughout the West.

On the heels of the debut of the oil-electric on the Chicago and Northwestern system, it is announced that an oil-electric of the 100-ton type, with a capacity of 600 horsepower, has been ordered by the Great Northern Railroad system, for delivery during the summer.

Before going into active yard service upon the Chicago and Northwestern system, the oil-electric ran under its own power, without load, to Chicago from Schenectady, N. Y., where it was assembled at the works of the American Locomotive Co. Upon the run of 832 miles it consumed 238 gallons of fuel oil, an average of 3½ miles to the gallon. Its economy of operation was reflected in a cost of $11.90 for fuel oil and 50 cents for a gallon of lubricating oil, or $12.40 for all the oil used on the run.

The low average cost of fuel for the trip, 1.3 cents a mile, compared with previous records of oil-electric locomotives in use on eastern railroads.

PROFESSOR T. M. JASPER TO CONDUCT RESEARCH

The A. O. Smith Corp. of Milwaukee, has recently announced the acquisition of Prof. T. McLean Jasper, formerly of

T. McLean Jasper

the University of Illinois, to take charge of the company's research activities.

Professor Jasper is a recognized authority on "fatigue of metals," having had for the past five years, charge of that branch of the university's laboratories engaged in this form of research.

OPENS TULSA OFFICE

The Blackmer Pump Co., of Grand Rapids, Mich., has opened branch offices at 8 N. Cheyenne Ave., Tulsa, in charge of Roy J. Kirk, the company's representative for Oklahoma and Arkansas. A complete stock will be carried. The company's largest branch is at Kansas City, Mo.

HILLS-McCANNA TRANSFERS

A. B. Harrison, formerly in charge of the Mid-Continent territory, with headquarters at Tulsa, Okla., has been transferred to the Chicago office, in charge of refinery sales for the Hills-McCanna Co.

The Tulsa office, 124 West Third St., has been placed in charge of Edward Soph.

PIPE PRICES FIRM BUT OTHER STEELS ARE A SHADE EASIER

By B. E. V. Luty

PITTSBURGH, Pa., June 28.—Pipe mills are operating now at a slightly better rate than at any previous time this year, at close to 90 per cent. As capacity increased last year the present operation means a larger output in actual tonnage than would have been possible in past years.

The official statistics of iron and steel production in 1925 have just been issued. Production of oil country goods, including casing, tubing, drill pipe, line pipe, etc., has been as follows:

	Gross Tons
1919	1,068,914
1920	1,261,778
1921	891,995
1922	1,139,834
1923	1,358,889
1924	1,183,867
1925	1,018,302

In 1925, the pipe mills also produced 1,232,375 tons of black standard pipe, 548,567 tons of galvanized standard pipe, 168,519 tons of O. D. and miscellaneous and 62,778 tons of boiler tubes, making with the oil country goods, a total of 3,030,541 gross tons of all welded tubular goods. Production of seamless steel tubing amounted to 568,190 gross tons, of which 162,294 gross tons was boiler tubes. Some of the other seamless found its way into oil country use but the quantity is not known.

The improvement in pipe mill operations is somewhat more than would have been expected from recent reports and may be attributed to old orders for line pipe stringing out longer than might have been expected; to demand for casing, etc., holding up very well if not increasing, and to recent increases in buying of ordinary merchant pipe. This line was late in its seasonal opening, and is not tapering off yet, as in ordinary times it would now begin doing. All of this is attributable jointly to the late spring and to jobbers not carrying stocks as they used to, or rather to their not accumulating stocks early in the year and then liquidating them as midsummer came.

Prices of pipe mill products—with the usual exception of boiler tubes—are quite well maintained, being indeed very firm.

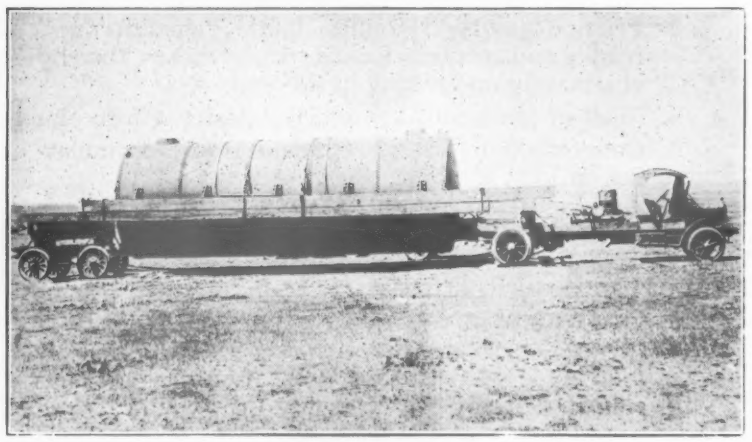
Prices of some other finished steel products are not any too strong. While demand is nearly as heavy as it has been on an average for months past, there has been strenuous competition right along and even a little decrease in demand naturally increases the competition. In bars, shapes and plates advances of $2 a ton have been announced by various mills in the past few weeks, at which the buying trade has exhibited considerable surprise, and even in some quarters not a little amusement. Perhaps the explanation is that the attempt was made to advance prices in order to offset a decline that might otherwise occur. It is understood that before the price advance announcements were made a good bit of tonnage was drawn in at old prices, if indeed there was not a little extra shading. As some large tonnages were booked, the market at present affords little if any test of current prices as to large lots. As to small lots, prices are not holding much if any better than they were. Thus while the advance in merchant bars, as announced, was $2 for large lots—100 tons and over—and $2.10 for smaller lots, even single carloads with mixed specifications can be placed, and are being placed, at $2.

In sheets, prices are quotable a shade easier again, but it has begun to look as if the decline in sheets is over. There is distinctly heavier demand. The market is now quotable at 2.25 cents to 2.30 cents for blue annealed, 3.10 to 3.15 cents for black and 4.30 cents for galvanized.

Nothing new has come out as to semi-finished steel prices, old prices having been $35 for slabs and standard billets, and $36 for sheet bars and small billets, with $5 differential for ordinary forging billets, and more for special quality. The sheet mills are hoping for a lower sheet bar price for third quarter, and any decline would naturally depress billets also.

Steel mills are operating at fully 80 per cent this month, and thus doing well for the time of year.

TRAILER MOVING BOILER ACROSS DESERT



An oil company drilling in the Wyoming desert needed two big boilers, and as usual in the development of oil properties, needed them in a great hurry. Each boiler weighed 15 tons—the picture gives a good idea of their huge size. The nearest railroad station was 49 miles away, and the company faced the problem of transporting the boilers across the desert, where there were no roads at all.

When the first boiler arrived at the railroad terminal, as related by L. P. Warner, vice president of the Warner Manufacturing Co., it was placed in a cradle of heavy beams; each end of the cradle was supported on a horse-drawn truck, and the load was started on its 49-mile journey. Before the boiler had reached its destination, 20 teams of horses and 12 men had worked for six days—and they were not ordinary 8-hour working days, either; on some days the horses and drivers and helpers worked 16 hours.

By the time the second boiler arrived, the superintendent of the company had taken counsel and provided himself with a sturdy 5-ton truck and two 2-ton pole-trailers. One end of the cradle containing the boiler was placed on the rear end of the truck, resting on blocks, and the other end on to the trailers, which were coupled together. With this outfit the trip was made in just 19½ hours, assisted by a crew of only six men.

FIRST WELDED LINE FOR PANHANDLE CRUDE

The oil news items recently carried the announcement of the completion of the Marland Pipe Line Co. of Texas' 8-inch line from their station at Dixon Creek to loading racks at Panhandle City.

Panhandle crude congeals at approximately 50 degrees and the problem of continuous delivery offers numerous and varied difficulties.

According to Dan Kygar, of the Marland Pipe Line Co., every feature of engineering which would eliminate constriction of the flow and type of construction which would be most dependable in withstanding the tremendous pressure to which the line would be subjected, were considered as items of paramount importance.

As the past experience and results of this company in the use of its several hundred miles of welded lines has, it is reported, eliminated many of the problems common to oil lines, it was decided to lay this line by welded construction. Contract was let to Kelly Dempsey & Co., pipeline welding contractors of Tulsa, Okla., for welding and George H. Greenan Co., pipeline contractor, for all other work necessary to the complete construction.

Work was started on March 16 with rush orders for an early delivery which was realized on May 10, after which the line was tested and delivered to the operating department for service.

The approximate length of this line is 27 miles of 20-foot, 8-inch heavy line pipe, representing 20,790 welds, which under test of 850 pounds of cold water pressure, it is reported, did not show up one fault, either of leaks, breaks or split pipe, throughout the whole line.

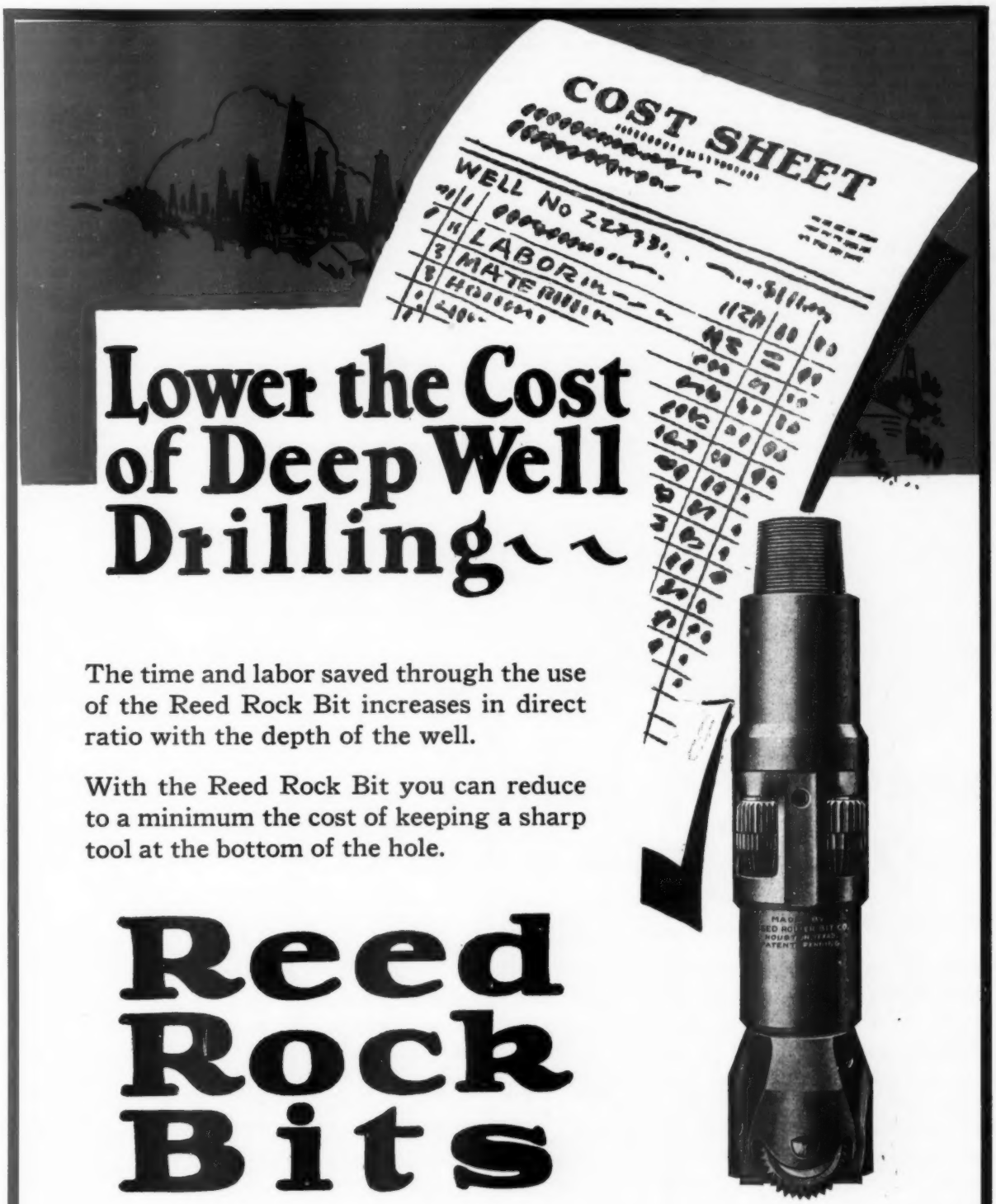
At points along the line an unique device was constructed for the delivery or insertion of line scrapers without interrupting the flow of oil, this also permitted the use of scrapers in such sections deemed necessary. Throughout the whole construction every detail was watched that the scraper would encounter no obstruction; every bend was limited to a degree even less than necessary for its passage, each joint was aligned that the inside bore would present a smooth surface and all welding was watched that no excess metal formed on the inside.

The trench was of such depth that at no point would there be less than 32 inches of covering and on account of the rough contour over which part of the line passed it was necessary to excavate over 20 feet in depth. In sections where line crossed canyons, supports were constructed in the form of an "A" and line was leveled across, at these points the exposed section was insulated against all weather conditions.

A substation was constructed at a point near the half-way and provisions made for lateral lines by placing stubs at advantageous points.

No expansion joints were used to provide for expansion or contraction, but the pipe was forced into the ditch for what is commonly referred to as "slack," which permits the line to settle and also contract or expand without inviting line strains.

XUM



Lower the Cost of Deep Well Drilling

The time and labor saved through the use of the Reed Rock Bit increases in direct ratio with the depth of the well.

With the Reed Rock Bit you can reduce to a minimum the cost of keeping a sharp tool at the bottom of the hole.

Reed Rock Bits

Reed Roller Bit Company
HOUSTON LOS ANGELES

FUTURE POSSIBILITIES OF CREEK COUNTY, OKLA.

(Continued from Page 32)

Chattanooga shale overlying it than to the older underlying formations.

Hunton Formation

The Hunton formation, part of which correlates with the St. Clair marble of eastern Oklahoma, has not thus far been identified in Creek County, though it has been found in some wells in the east central part of Lincoln County. It is possible that this formation may later be found in the southwestern part of Creek County.

Where encountered in wells, this formation consists of a continuous white to gray dolomitic crystalline limestone, showing very little shale. The shales are very limey, or are really softer members of the limestone.

The Sylvan shale, shown in Luther White's[2] map of northeastern Oklahoma, occupies most of Creek County south and west of Bristow. This shale where found overlain by Hunton is greenish blue to olive green in the upper 5 to 15 feet. It is composed of a dark shale toward the base. It is very remarkable in its lithologic uniformity over broad areas and has long been recognized as a distinct formation. It is slightly calcareous and has a few thin beds of limestone. Its total thickness ranges from 75 to 125 feet. The age of the shale, according to White, is Richmond, and may be correlated with the Cason shale of Arkansas.

White Lime

The Viola limestone ("white lime"), which in the Arbuckle Mountain area has a thickness of from 500 to 600 feet, ranges from 40 to 50 feet thick in Creek County, due to the absence of the lower beds. Here it is made up principally of two beds. The upper bed is a white to grayish, coarsely crystalline limestone and the lower bed is a dense brownish-gray limestone closely resembling lithographic stone. Due to its thickness, where exposed to erosion at the close of the Devonian it has been left frequently as outliers. This accounts for its absence in some well logs in this county. It has been correlated with the Fernvale limestone of the Harrison quadrangle.[3].

The Simpson formation is composed of "post-Wilcox Simpson," the Wilcox, the Tyner and the Burgen, all overlapping the lower Simpson beds[4].

The Simpson lies between two unconformities, one under the Viola and the other above the Arbuckle, and extends out beneath the post-Hunton unconformity.

The post-Wilcox Simpson is made up of a series of brown or gray sandy dolomitic limestones interstratified with same green shale and thin sandstone members. This attain a thickness at Stroud, Holdenville, Okemah and Cushing of as much as 140 feet.

The Wilcox is a white sandstone attaining a thickness of 50 to 200 feet. It has a pure, uniform character which differentiates it from the Tyner.

The Tyner formation is composed of green sandy shale interstratified with thin beds of sand and sandy dolomitic limestone. In the northern part of the county the basal portion is more dolomitic and becomes more sandy southward.

The Burgen (Hominy) sandstone, laid down in most of Creek County over the eroded surface of the Arbuckle limestone, is a well cemented glassy sandstone. Because of its siliceous cementation it is relatively nonproductive. It may be absent in places because of islands of Arbuckle or siliceous lime in the Burgen Sea. It reaches 50 feet or more in thickness.

The lower Simpson beds, composed largely of sandy shale and sand, which attain a thickness of 300 feet or more south of Wewoka, probably do not occur in much, if any, of Creek County .

Sileceous Lime

The Sileceous lime, which is correlated with the Arbuckle limestone of lower Ordovician age, is found in several wells in Creek County. From this formation comes the "Turkey Mountain" sand production. It is generally thought to contain no shale breaks of a thickness noticeable in well logs, though one we'l shown on the accompanying cross sections has two shale beds of from 10 to 20 feet in thickness in that portion of the section which the writers believed to be the Siliceous lime. Most generally this formation is chiefly made up of limestone, sandy limestone and sandstone beds.

Granite is found for certain in only one well in Creek County. This is located in Section 22, Township 19n, Range 7e, where it was encountered at from 3,670 to 3,704 feet. In this well the granite was overlain by 600 feet of Silicious limestone. Overlying the Silicious lime is the Tucker sand, while the Wilcox is missing. The granite is probably pre-Cambrian.

It is not known just what the topography of the granite surface in Creek County is, nor whether buried ranges of hills or mountains of granite may occur here. The single occurrence in Creek County is under the south end of the Cushing group of structures, suggesting a relationship between possible granite ranges and the larger structural features. This relationship will be discussed in a later paragraph.

Structure

Since a large part of Creek County is

[2]Published in The Oil and Gas Journal, April 1, 1926. Also published as Bulletin 40-B of the Oklahoma Geological Survey.

[3]Purdue, A. H. and Miser, H. D., United States Geological Survey. No. 202 (1916.)

[4]See cross section accompanying Luther White's map. Bull. Okla Geol. Survey No. 40-B.

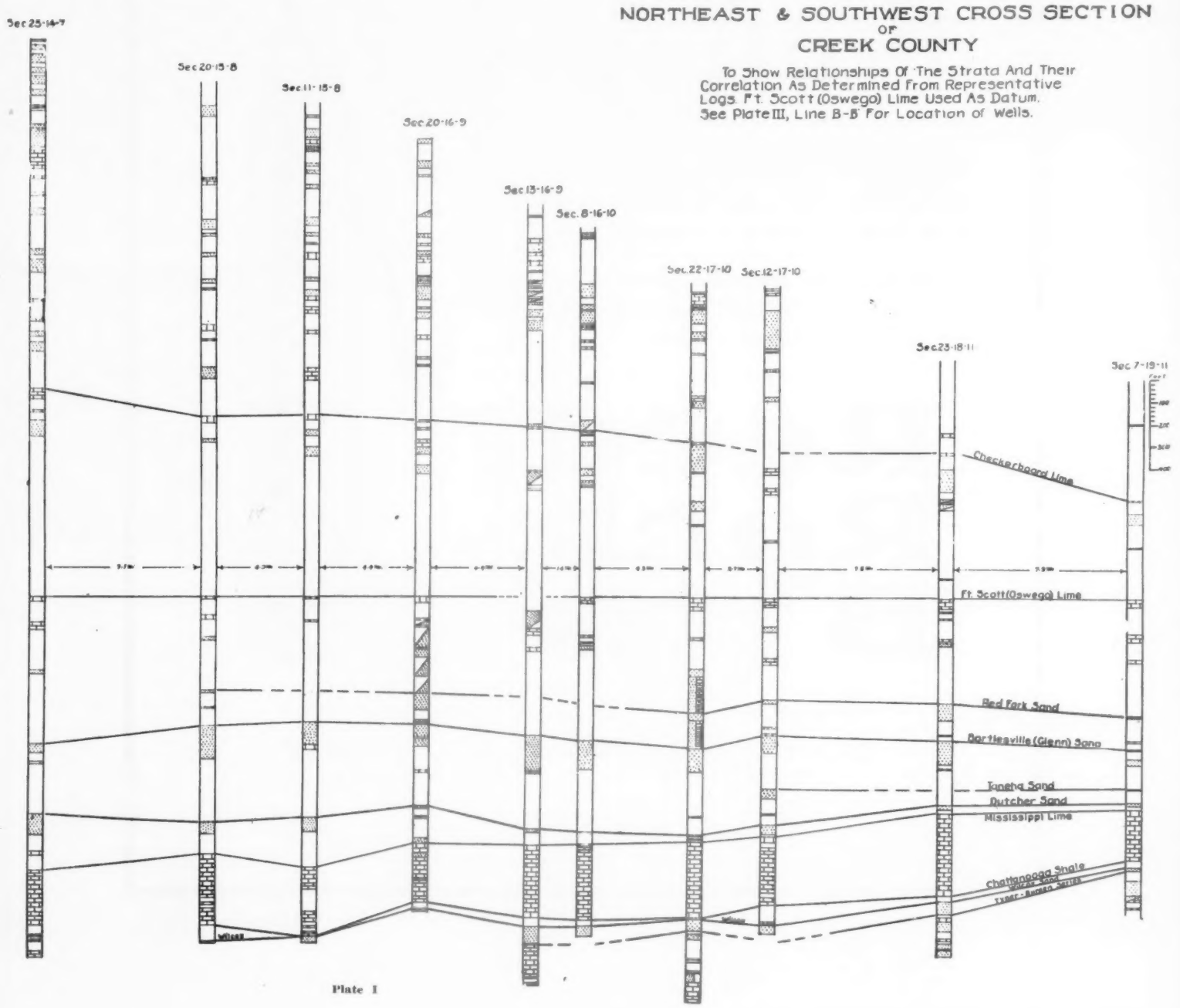


Plate I

Sivyer Castings can be forged and welded

SIVYER (S) CASTINGS
DEPENDABLE

The cage for a famous circle jack—cast, successfully, for more than 10 years, in Sivyer Electric Steel.

The Final Safeguard Against Failure

For More Than Ten Years

IMPORTANT and intricate parts for many pieces of equipment that have gained fame in the mid-continent oil-fields, were first developed and made successfully by Sivyer. The cage for a famous circle jack is one of these. It has been cast steadily and successfully in Sivyer Electric Steel for more than ten years. In this particular case, it was found that increased demands from the fields necessitated a stronger metal than malleable. Forgings were impractical—open hearth steel too stiff in its molten state to form the sharply varying sections. After ten consecutive years of experience with Sivyer Steel the user writes, "—we have experienced no trouble in sustaining the excessive loads placed upon these Jacks in handling the heaviest drilling tools now in use." Sivyer Steel foundry practice and experience help to provide such an assured safeguard against failure in service.

Why Manufacturers Turn to Sivyer

The strength of Sivyer Steels and Alloy Steels have been proven—*first*, by exhaustive foundry tests—*second*, by years of service under the toughest of actual conditions.

The carefulness of Sivyer Foundry Practice is illustrated by such jobs as the circle jack cage shown on this page. Year after year manufacturers stay with Sivyer because there they obtain the things they want.

They Get:
Greater Strength, Longer Life,
Less danger of breakage in service,
Lower machining and grinding costs,
Fewer rejects,
And the backing of a name that is famous throughout the mid-continent fields.

If you are having trouble with any of your parts, send blue prints of them. Recommendations will be made without obligating you in any way.

Mid-Continent Office
1415 F & M Bank Building
Ft. Worth, Texas

SIVYER STEEL

SIVYER STEEL CASTING COMPANY, MILWAUKEE

Carries 100 tons

Without a Quiver

Carrying 100 tons is an easy task for a Regan Block. It's the block for super-loads. It works faster and slippage of the wire lines is eliminated.

When the world's deepest well (Miley—Athens No. 6) was drilled they *had* to use a Regan Traveling Block—to play safe! It's the one block that will handle heavy strings at *any* speed, without strain or friction on the sheaves. Built to handle twice the load of the heaviest string of casing ever installed.

—and note these exclusive features

1. **Staggered sheaves on individual pins.**
2. **Sheaves rotate with their pins, eliminating friction on lines.**
3. **Twice as much bearing surface than is in any other type of block.**

Regan Blocks will outlast three blocks of the ordinary stationary pin type. Get the facts now.

Regan Traveling Block

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well covered by timber and the greater number of hard outcropping sediments are sandstones with irregular thickness and extent, reconnaissance of the surface structures is very difficult. In addition to this, with a few exceptions, the surface structures are small and with relatively low structural relief. For these reasons it is the belief of the authors of this report that there is much undeveloped territory in Creek County, underlain by small structures yet to be discovered which hold promise of future production. It is also their belief, that a study of the typical structural conditions and their interpretations in Creek County will present a key to the whole Creek County problem which will be of value to operators interested in exploiting this territory.

Since the structures of Creek County appear to have been formed by a relatively uniform group of forces, and seem to have a more or less definitely arranged pattern, and since certain types of structure appear to follow more or less fixed rules regarding position of axial plane, surface and subsurface dips, and the like, a correct interpretation of the origin of the structures in this county seems absolutely necessary, not only to the search for undiscovered anticlines, but also to the proper recommendations for the testing of any single structure. The authors, therefore, present this chapter on structure with a view to reach, if possible, the true interpretation of the forces acting in this general region, and the effect of these forces acting in this general region, and the effect of these forces upon the rocks of Creek County.

Structure of the Area

Regional structure. The rocks of this county strike from north 10 degrees, to north 20 degrees, east and dip westward at an average rate of about 75 feet per mile. This general monoclinal dip is rarely found regular for any great distance, but is almost everywhere interrupted by faults and folds of various types. The faults are almost always normal and are usually arranged in groups. Within the groups these faults are en echelon. The folds take the form of synclines, domes or closed anticlines, plunging anticlines and terraces or arrested monoclines. The anticlines are also frequently arranged en echelon, but less noticeably than are the normal faults.

Normal en echelon faults. Most of the faults of Creek County are normal and are arranged en echelon in fairly straight-line zones. These zones trend about north 10 degrees to north 20 degrees east, which is about the same as the normal strike of the rocks of the county. The faults themselves take a northwesterly direction making an angle of about 45 degrees with the line of the zone in which they lie. (See Pl. 3.) There is a striking parallelism between the individual faults in any single zone. There appears to be little difference between the number of faults with the downthrow in the opposite direction. These faults seldom exceed 2 miles in length (the maximum being about 3½ miles) and the throw is rarely in excess of 75 to 100 feet (with a maximum of 130 feet.) The average length appears to be between 1 mile and 1½ miles while the average throw seems to be less than 50 feet.

Fath[3] states that these en echelon faults have their greatest displacement near the basement rocks, while the displacement decreases upward, and that many of the faults do not reach the surface. It is the opinion of the authors that the throw of the en echelon faults decreases downward. Their reasons for this belief will be set forth in a later paragraph.

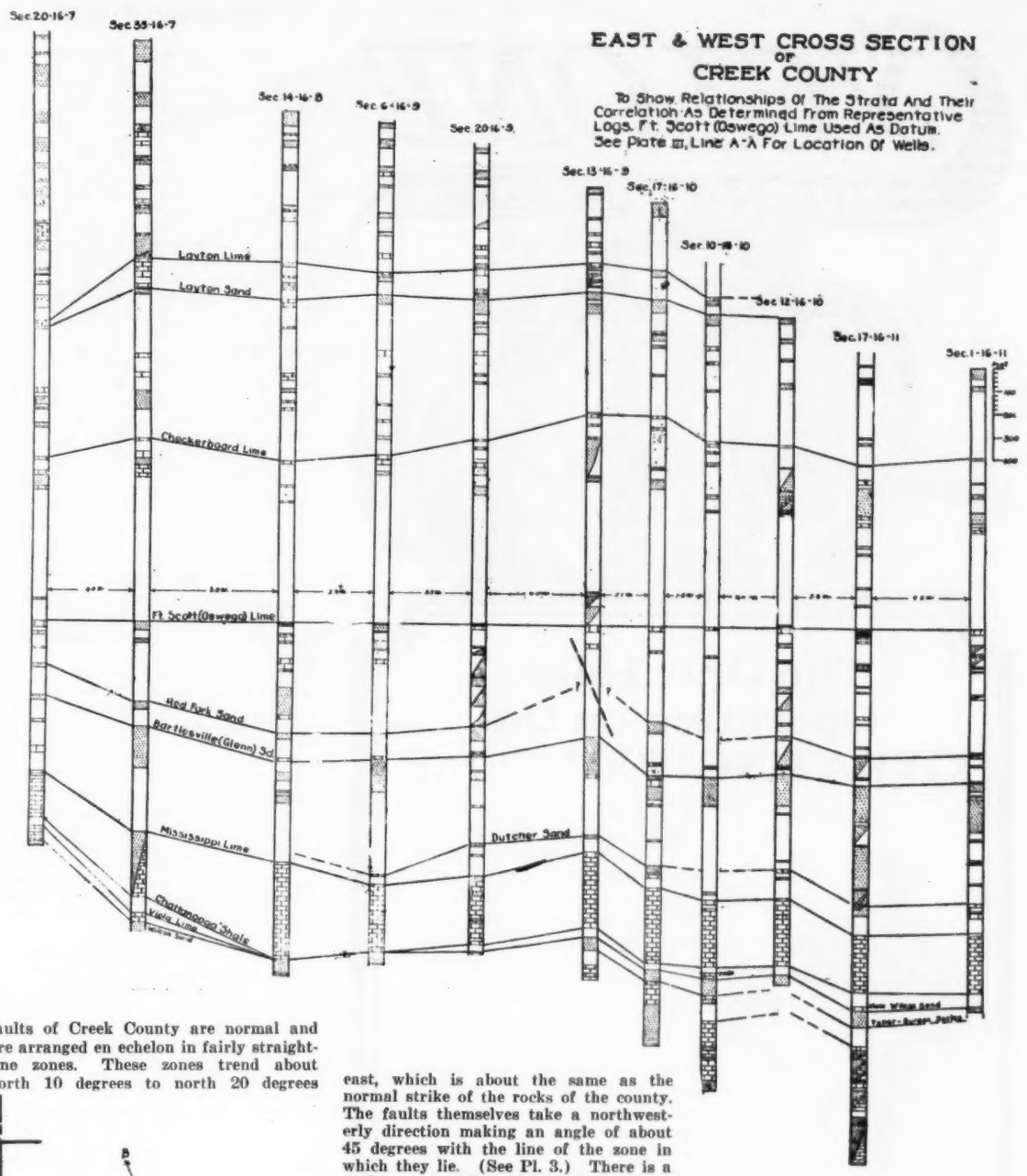


Plate II

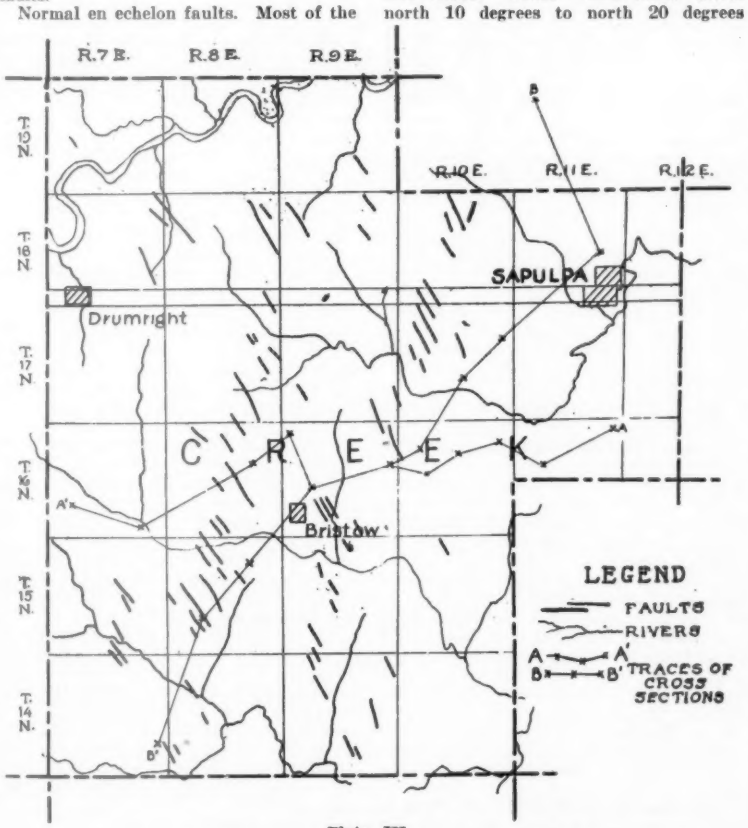


Plate III
Map of Creek County showing zones of parallel faults.

Slickensiding

There are a number of surface phenomena accompanying these faults, such as slickensiding of sandstone and limestone beds, where cut by the faults, shearing and veining of sandstones and limestones in the zone of faulting, buckling of ledges into ridges following the fault trace, and the formation of abnormal dips probably by slumping toward the fault plane which may take place on either the upthrown or downthrown side of the fault, or on both sides.

Normal northeast southwest faults. So far as the authors are aware, no northeast-southwest normal faults reach the surface in Creek County. It is suspected by several geologists, however, that some such faults occur in the Pennsylvanian rocks below the surface. Such a one is described by Fath as cutting across the Slick Field in Townships 15 and 16n, Range 10e, marked by a series of dry holes. Several such faults have been mapped, however, in Hughes, Seminole and Okfuskee Counties. The strike of these faults closely coincides with the trend of the en echelon zones in these counties. These faults range in length from 2 to 10 miles and in displacement from 100 to 300 feet.

Thrust Faults

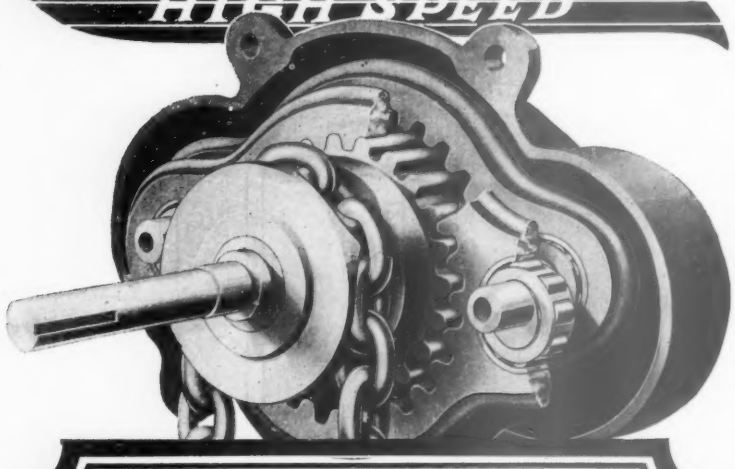
The authors know of only one thrust fault in Creek County. This crosses the northwest quarter of Section 10, Township 18n, Range 10e. It strikes northeast and southwest and lies approximately at right angles with the trace of the en echelon faults, and parallel with the axis of the small northeast-southwest folds. Its best exposure is in a creek bank near the north side of the section, where a heavy limestone bed is cut by the fault at an angle of 40 to 45 degrees with the horizontal. The fault plane is well slickensided. The maximum throw is about 60 feet.

(To Be Continued)

[3]Fath, A. E., Geology of the Bristow quadraugle, Creek County, Oklahoma, Buil. U. S. Geological Survey No. 759, p. 38, (1926.)

CYCLONE

HIGH SPEED



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CANADIAN FIELDS

(Continued from Page 56)

and is making about 1,500,000 feet of gas per day. Dalhousie No. 3, LSD 10, Section 13-20-3w5, is at 3,345 feet; the 6-inch casing is being pulled and a new string will be put in. Dalhousie No. 5, LSD 16, Section 30-19-2w5, which has been waiting for cement to set at the bottom of the stovepipe casing, has resumed drilling at 60 feet.

Dallas Oil Co., LSD 11, Section 20-19-2w5, is at 1,800 feet and drilling steadily. The 12-½-inch casing has been run to 1,775 feet and will be carried to 2,100 or 2,200 feet, the hole meanwhile standing up well with practically no caving. Highland Oil Co., LSD 5, Section 5-20-2w5, has cemented the 24-inch casing in a blue clay at 87 feet and resumed drilling with a 20-inch hole. Home Oil Co., LSD 10, Section 2-19-2w5, is down 760 feet and drilling. Open hole for the 15-inch casing has been drilled from the bottom of the 20-inch at 190 feet. Great West Oil Co. No. 1, SW of Section 7-20-2w5, is at 2,100 feet, with the casing carried just behind the tools. The 12½-inch casing will be carried into the Dakota sand and set there. Great West No. 2, same section, is rigging up.

New Tests

Merland Oil Co. of Canada, capitalized at $1,000,000, has secured 120 acres in LSD 3, 4 and 5, Section 22-20-3w5, and will drill a test. Officers of the company are, president, Senator William Harmer; managing director, J. R. McGivern; directors, F. W. McDougall, Clyde C. Glosser, J. B. Cleary. Harry Rea will handle the drilling contract. New Black Diamond Oil Co., LSD 1, Section 3-20-3w5, is reported to have spudded in. Glenbow Oils, Ltd., recently incorporated by Red Deer and Calgary men with $500,000 capitalization, has acreage in LSD 13, Section 3-20-3w5, where a test will be drilled. Mount Vernon Oil Co., incorporated under Dominion charter with $500,000 capitalization and head office at Winnipeg, Man., will probably drill in Section 5-20-2w5.

Alberta Associated Oil Fields, Ltd., at a shareholders' meeting held recently at Calgary decided to subdivide the 200,000 $5 par value shares of the company into 1,000,000 shares of $1 par value. The following officers were elected: President, Miss Edith Howland, vice president, A. P. Patrick; secretary-treasurer, Miss Violet B. Christie; directors, Rev. A. D. McDonald, N. Lee, T. P. Greentree, J. C. Noell. The company, which is one of the few survivors of the boom period of 1914, holds 4,360 acres of leases, including 1,800 acres in the Nanton district, Townships 16 and 17, Ranges 2 and 3w5, and 2,500 acres in the Wainwright Field. The company also holds in the Turner Valley Field a quarter section in Section 4-18-3w5. The Nanton acreage is held under royalty by Imperial Oil, Ltd., which some years ago deepened the Christie well, started in 1914 by the Alberta Associated, though owing to drilling difficulties the test was not carried by Imperial Oil, Ltd., to conclusive depths. Tentative arrangements are being made for development of the Wainwright acreage on a royalty basis.

Argyle Oil Co., recently incorporated under Dominion charter with head office at Calgary and capitalization of 250,000 no par value shares, has located a test in LSD 1, Section 33-20-2w5, to be drilled under contract with a standard outfit. Officers of the company are: President, Daniel Needham; vice president, W. C. Wood; directors, Frank Henderson, Charles H. Huss, James Fluke, W. J. Embry, Charles E. Bevan; secretary, J. O. Campbell. Henderson Petroleum, Ltd., capitalized at $250,000 with head office at Calgary, has located a test in LSD 7, Section 27-20-3w5. A drilling outfit is being brought from Colorado for the test. Officers of the company are: President, W. S. Henderson; vice president, Carl L. Ohlson; directors, John A. Henderson, Winnipeg; C. C. Cook, Wayne; F. W. Rogers, Calgary.

Dolomite Oil Co. has located a test in LSD 8, Section 1-20-2w5. E. J. Cowles, field superintendent, is now preparing for the test. A tentative site for No. 2 has been spotted in Section 31-19-2w5 near the Midwest well. Golconda Oils, Ltd., is building camp and digging cellar for derrick in LSD 13, Section 26-19-3w5.

Madison Oils, Ltd., LSD 8, Section 34-20-3w5, has derrick up and is moving its drilling outfit from Calgary. The test will spud in early in July. New McDougall-Segur Oil Co., LSD 14, Section 12-20-3w5, has spudded in. Pearson & Davies, oil engineers, of Calgary, have charge of the drilling. Calmont Oils, Ltd., LSD 2, Section 1-20-3w5, is waiting for a boiler. Cooper Nanton Oil Co., No. 1, LSD 2, Section 7-20-2w5, has cemented in the stove-pipe casing and resumed drilling.

Moose Mountain

In the Moose Mountain Field, Reserve Oils, Ltd., on the Morley Indian reserve, is down 760 feet with a diamond drill test. Signal Hill No. 2, LSD 9, Section 34-23-5w5, is expected to spud in June 28.

On the Sinclair structure, W. E. McLeod, Hugh Walsh and associates have timbers on the ground for a test in SW Section 6-18-2w5, not far from the old Calgary-Alberta well on Bar-U ranch, 6 miles north of the Prince of Wales ranch. Jewel Oils, Ltd., will drill in LSD 6, Section 34-17-3w5, either deepening the old Calgary-Alberta well or drilling a new test right alongside. Banner Oils, Ltd., will drill in the immediate vicinity in LSD 34, Section 35-17-3w5. Wabash Oils, Ltd., has acreage half a mile to the northwest, and a tentative location in LSD 16, Section 33-17-3w5. British Merchants Petroleums, Ltd., will drill in either LSD 8, Section 2-18-3w5 or LSD 10, Section 25-17-3w5. The old Calgary-Alberta well at the time of the Calgary boom got an oil showing at the unusually shallow depth of 227 feet. Another boom company, the Sentinel Oil Co., drilled in Section 15-17-3w5 but did not get to any depth.

Orion Oills, Ltd., incorporated under Dominion charter with head office at Calgary, has a location in LSD 8, Section 24-19-4w5 in the Sheep Creek Field. Officers of the company are: President and managing director, George Hardie; secretary-treasurer, L. M. Romkey, Halifax, N. S.; directors, F. L. Woodman, W. C. Thorne, R. M. Menzies.

In the Aldersyde district, Ranchmen's Oil & Gas Co., LSD 16, Section 13-20-29w4, has cellar dug and water lines laid, and is waiting for machinery.

In the Foremost Field, Devenish Petroleum, Ltd., will develop the 80,000 acres recently filed on by interests connected with United Oils, Ltd., in Townships 4 and 6, Ranges 14 and 15w4, near Skiff. Plans are being considered to drill three or four wells this season. There are reported to be possibilities of oil in the Dakota at 2,200 feet; in the Kootenay at 2,700 to 3,000 feet, and in the Madison limestone around 4,000 feet.

Border Field

In the Border Field, Monalta-Johnson No. 1, Section 3-37-4w, on the Montana side, close to Sweetgrass, is resuming drilling at 2,350 feet after setting the 8-inch casing, and is thought to be in the Sunburst sands. Cascade Oils, Ltd., in which Canadian capital is also interested, has spudded in a test in NE of Section 11-34-1w, close to the Pondera Valley-Larson which recently got production at 1,420 feet. Model Oils, Ltd., of Calgary, drilling in Section 27-35-1w, reports a small production.

On the Canadian side, Urban Oils, Ltd., Moodie No. 1, Section 4-1-15w5, close to Coutts, is at 2,984 feet. Pearson & Davies, engineers, of Calgary will take charge of the hole and complete the drilling for the company.

It is reported that J. J. Reynolds of Great Falls, Mont., has been granted a franchise by the Alberta Government permitting him to export gas from the Rogers-Imperial gasser in Section 29-1-11w4. The Rogers-Imperial has an estimated open flow of 50,000,000 feet a day for which there is no immediate market; and it is planned to pipe the production to Great Falls.

In the Irma-Wainwright Field, east central Alberta, it is reported that five

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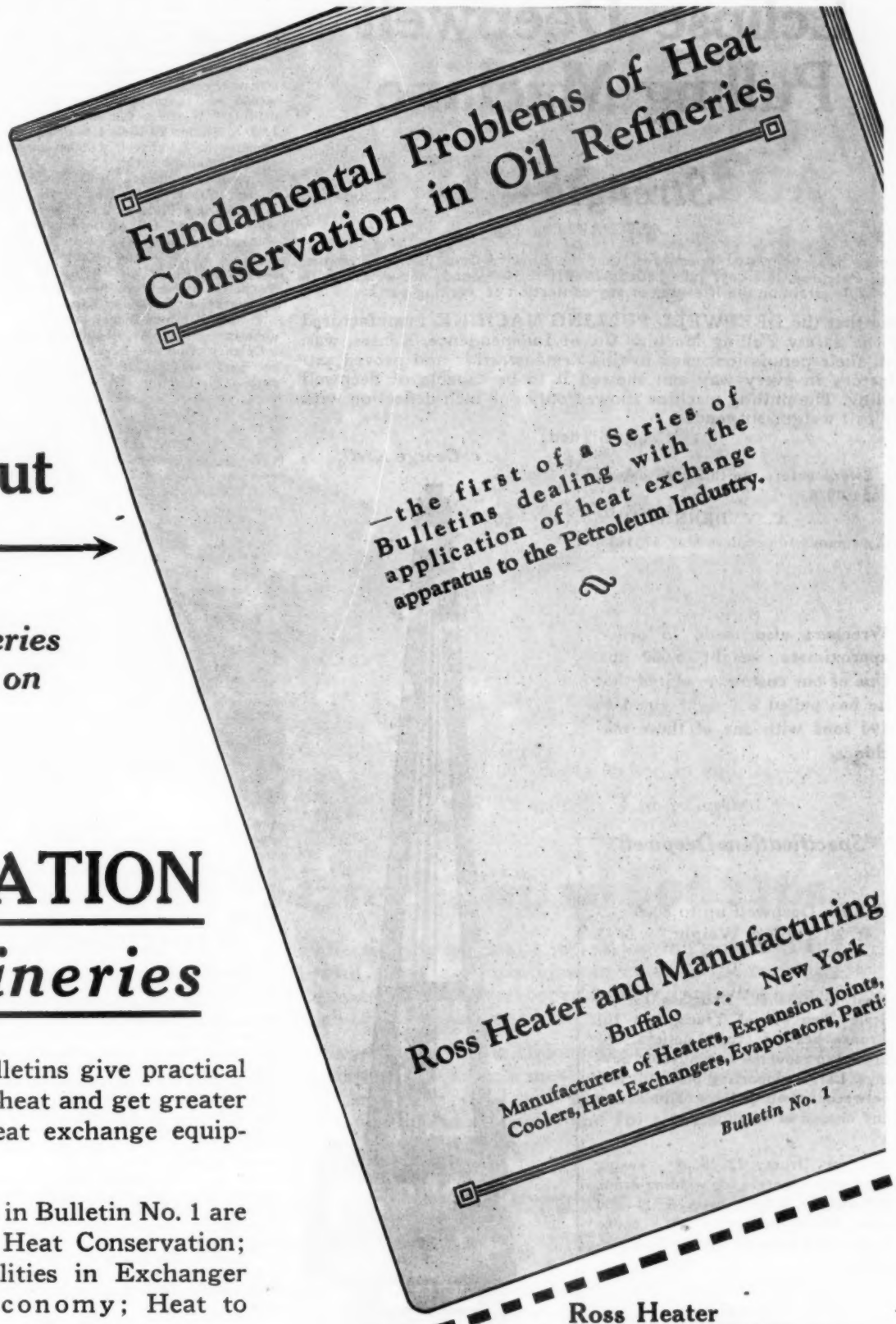
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AFFIDAVIT

George Krell upon oath does swear that the Bovaird Grip Tubing Elevator, Krell Patented, this day, June 10th, 1926, lift 32,844 pounds net weight with no visible strain on the Elevator or any contortion of working parts.

Also that the DEEPWELL PULLING MACHINE, manufactured by the Safety Pulling Machine Co. of Independence, Kansas, was, thru their permission, used in this demonstration and proved satisfactory in every way and showed it to be capable of deepwell pulling. The pulling machine showed only one inch deflection with the full weight suspended.

Signed:

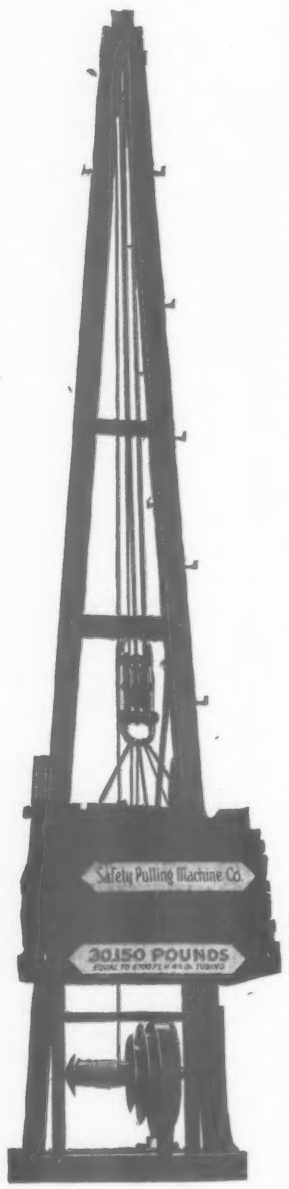
George Krell.

Sworn before me this 10th day of June 1926.

C. V. DENNIS, JR.

My commission expires Mar. 17, 1928.

Wreckers also made to order, approximate weight 5,000 lbs. One of our customers stated that he has pulled a weight equal to 100 tons with one of these machines.



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Mast 8x10x36 ft., Douglass Fir A-Style Two Wheel Truck, two 16" Bronze bearing crown pulleys, 2½ Steel Pin mounted in malleable boxings. Large supporting plate 16" dia. between crown pulleys, eliminating any chance of bending pin.

Reel or Drum; 32 lb. 8¼ casing filled with concrete for winding drum, differentials banded with 3/16 band iron, brake surface 6"x40", choke brake style same as Star drilling machine.

The whole reel assembly is mounted on 2¾ square steel shaft extending clear through reel, secured by three heavy castings.

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companies backed by Toronto capital are planning a series of 19 tests in Sections 23 and 24, Townships 45-8w4. Western Consolidated Oils, Ltd., No. 2, LSD 1, Section 30-45-7w5, has spudded in. Edmonton Gas & Development Co. has the contract, crude oil from Edmonton-Wainwright No. 1 producer being used in the drilling. Western Consolidated No. 1, LSD 8, Section 20-45-6w4, which has been standing at 1,400 feet, will be completed with a standard outfit.

In the Irma section, Irma Oil & Development Co., LSD 16, Section 28-45-9w4, is reported drilling at 1,509 feet. British-Wainwright Oil & Development Co. is moving in derrick timbers for a test in LSD 13, Section 30-45-6w4. A geological party for the California Petroleums Co. is at work near Wainwright in charge of Geologist King.

In the Ribstone-Blackfoot area, L. C. Johnson and R. Archibald, representing a Calgary syndicate, have blanketed three sections about 3 miles south of the Imperial Oil, Ltd., location. A Vancouver syndicate has filed on 15,000 acres on the west side of the structure and will drill a test this summer. The Oxville Oil & Gas Development Co., headed by Robert MacKay, has located a test in Section 10-46-2w4, on the west flank of the Ribstone-Blackfoot structure. Oil is expected around 1,825 feet.

In northern Alberta, the Black Rock Petroleum Co. has resumed work on a test started last fall near Vermilion Chutes on the Upper Peace River. The derrick has been rebuilt on a new location and the test spudded in.

In western Saskatchewan, Unity Valley Oil Co., SE Section 23-41-24w3, has spudded in with a 20-inch hole, using the rotary tools of the combination outfit. Drilling operations are in charge of S. F. Flater with an American drilling crew.

In the Ontario fields, a shallow test drilled on the South Sarnia Properties, Ltd., near the Imperial Oil, Ltd., refining plant has developed a small gas production. The realty company which owns the property is starting a second test on the opposite side of the road and if production can be developed in a series of tests, it will be piped for domestic and industrial use in the development of the property.

EDW. J. BOSTAPH DIES IN ST. PETERSBURG, PA.

Edward J. Bostaph, 56, widely-known oil man, died Tuesday morning in his home in St. Petersburg, Pa., after an illness of several months.

Bostaph became ill about four months ago while engaged in the oil production business in Mexico and was in a Mexican hospital for three months before he was taken back to his former home in Pennsylvania. He had been active in the industry in the majority of the larger fields in the United States and also in South America, Cuba and Russia.

He was in the English army for some time and during that time was in charge of that government's oil production in the Dardanelles. Besides the brother here, who has gone to St. Petersburg to attend the funeral, Bostaph is survived by his wife and two brothers, H. P. Bostaph of Tulsa and F. D. Bostaph of Fort Worth, Tex.

GULF PRODUCTION WINS SUIT

PITTSBURGH, Pa., June 25.—The jury, on recommendation of Judge R. M. Gibson in United States District Court, found in favor of the Gulf Production Co. in its appeal against a verdict awarding $348,695 to Col. J. M. Guffey made last summer. Suit was brought by Colonel Guffey to recover $180,080 and interest which he alleged was due from a transaction in 1901 when he sold the defendant company leases of oil and gas lands in Texas and Louisiana. Colonel Guffy has filed a motion seeking a third trial, contending the court erred in giving the jury binding instructions. Judge Gibson issued a rule on the company to show why a new trial should not be granted.

Phillips Pet. Buys 2,000 Choice Acres in Hutchinson County

AMARILLO, Tex., June 25.—Phillips Petroleum Co., has purchased 2,000 acres north of the river on the Dial ranch. The interested parties made no statement as to the consideration, but it is generally believed to have been in the neighborhood of $1,000,000.

The acreage was purchased from J. J. Perkins, N. H. Martin and W. B. Hamilton of Wichita Falls, Tex., fee owners of the famous ranch. Purchase of the large block by Phillips is taken to mean that company will wage an extensive development campaign north of the river this summer and fall. The acreage involves seven tracts located in blocks M-23, 1, X-02 and 47.

The tracts purchased were given as 240 acres in Section 22, Block 47; 330 acres in Section 26, Block 47; 240 acres in Section 1, Block X002½; 369 acres in one-half Section 16, Block X-02; 320 acres in Section 2, Block 1; 292½ acres in Section 36, Block M-23, and 220 acres in Section 6, T. & P. R. R. Survey.

No announcement was made by the Phillips Co. with reference to what is expected to be done in the near future, but it was pointed out this gives that company protection over practically the entire field and it is believed it is being bought for intensive development.

SKELLY AND PALMER ON UTAH SOUTHERN BOARD

W. G. Skelly, president of the Skelly Oil Co., and George Q. Palmer, president of Palmer & Co., bankers, of New York, have been elected to the board of directors of the Utah Southern Oil Co., says a Denver dispatch to the Inland Oil Index. These men went on the board as representatives of the banking syndicate which a few months ago purchased 120,000 shares of Utah Southern stock and, it is stated, are becoming identified with the company as a result of their investment and not because of any change in control or policy.

It has been rumored for several weeks that the Utah Southern, which owns a half-interest in permits on most of the acreage on the Cane Creek, Shafer, Lockhart and Indian Creek Domes in southeastern Utah, would break away from its arrangement with the Midwest Refining Co. and drill its acreage on its own account. This report, however, has been denied with the statement that it is to the mutual interest of all concerned that the present arrangement should continue. The financing of the company was done by a syndicate through the house of Palmer & Co., of New York, and it was agreed that the syndicate should have representation on the board.

The Utah Southern and Midwest companies are drilling the Cane Creek and Shafer Domes tests as joint operations, but it is reported that the Utah Southern will be in charge of the drilling operations on a community test to be started at once on the Lockhart Dome.

OIL EXPORTS COMPARED

By Charles E. Kern

WASHINGTON, D. C., June 28.—For the first three months of 1926, gasoline and kerosene exports were higher in value and volume than a year ago, but lubricating oil declined 10 per cent in quantity and 8 per cent in value, the total of lub exports being 92,297,000 gallons, valued at $21,156,000. Noteworthy increases in value of exports included oil well machinery, 97 per cent over the first quarter of 1925. The increase in the quantity was 34 per cent. The increase in the quantity of petroleum asphalt exported was 83 per cent. Exports of kerosene amounted to 217,296,000 gallons, valued at $22,054,000, a gain in quantity of 4 per cent and in value 10 per cent. The increase in the value of "gasoline, naphtha, and other light products," was 26 per cent, while in quantity they increased 34 per cent.

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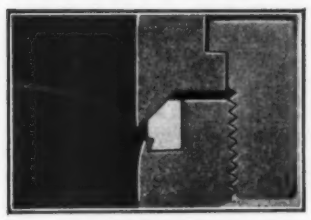

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Catawissa Standard Weight Unions are recommended. Hot Forged from special steel bars, they will withstand higher pressures and temperatures than other Unions and the safety and freedom from worry Forged Steel gives, are yours. They cost no more than the better grade malleable iron unions. Furnished with steel to steel, bronze to steel, and monel metal to steel seats.

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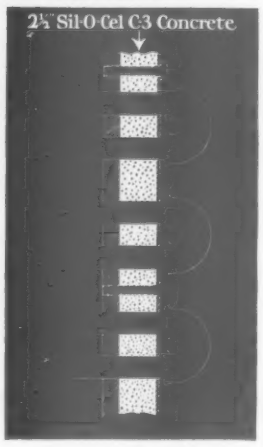

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Send me your new Engineering Service Bulletin C-115 which describes the applications of Sil-O-Cel C-3 Aggregate and C-3 Insulating Concrete.

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Address .....

City and State .....

SUMMARY OF CALIFORNIA OIL FIELD OPERATIONS FOR MAY, 1926

According to figures collected by the American Petroleum Institute, Pacific Coast office, the total production of crude oil in California for May amounted to 18,667,144 bbls., an average of 602,166 bbls. per day. This is a decrease of 893 bbls. per day under April production.

Total stocks of crude and all products in Pacific Coast territory decreased during the month 77,526 bbls. The total stocks at the end of the month were 151,733,489 bbls. The total stock decrease for 1926, up to May 31, was 5,582,820 bbls. Comparative figures as of May 31, 1926, April 30, 1926, and May 31, 1926, are shown in detail in this report.

Fifty-eight wells were completed during the month with an initial daily production of 15,738 bbls., compared with 95 wells completed during April with an initial production of 24,267 bbls.

PRODUCTION

(Figures of production and stocks are in barrels of 42 gallons)

	Barrels Per Month	Daily Average May, '26	Daily Average Apr., '26	Daily Average May, '26
Kern River	369,345	11,914	11,947	17,607
McKittrick	166,804	5,381	5,510	5,654
Midway-Sunset	2,924,004	94,323	94,238	103,645
Elk Hills	1,041,885	33,609	32,680	38,496
Lost Hills-Belridge	142,700	4,603	4,643	4,945
Coalinga	628,922	20,288	21,011	21,376
Wheeler Ridge	29,049	937	997	872
Watsonville	1,782	57	57	57
Santa Maria	157,582	5,083	4,958	7,260
Summerland	3,983	128	128	129
*Ventura Avenue	1,018,873	32,867	27,647	18,123
Ventura-Newhall	185,395	5,980	5,883	6,338
Los Angeles-Salt Lake	55,626	1,794	1,828	1,966
Whittier	65,756	2,121	2,131	1,906
Fullerton	541,754	17,476	17,969	11,542
Coyote	523,446	16,885	17,085	21,085
Santa Fe Springs	1,496,422	48,272	49,076	52,767
Montebello	555,282	17,912	17,992	18,742
Richfield	402,224	12,975	12,956	11,088
Huntington Beach	1,363,458	43,982	44,238	42,020
Long Beach	3,306,842	106,672	109,561	108,928
Torrance	927,631	29,924	29,571	36,804
Dominguez	652,629	21,053	21,009	36,958
Rosecrans	514,266	16,589	18,052	19,845
Inglewood	1,588,809	51,252	51,790	18,826
Newport	2,675	86	104	130
Total	18,667,144	602,166	603,059	607,107
April	18,091,771	603,059	.....	.....
Decrease	**575,373	893	.....	.....

*Previously included with Ventura-Newhall. **Increase.

STOCKS

	May 31, '26	Apr. 30, '26	May Stock Decreases	May 31, '26
Heavy crude, heavier than 20° A.P.I., including all grades of fuel	88,475,401	86,291,516	*2,183,885	65,620,145
Refinable crude, 20° A.P.I., and lighter	37,044,292	38,393,564	1,349,272	45,149,666
Gasoline	10,804,022	11,271,718	467,696	11,363,943
Naphtha distillates	5,184,540	5,641,183	456,643	6,435,416
All other stocks	10,225,234	10,213,034	*12,200	9,308,112
Total all stocks	151,733,489	151,811,015	77,526	137,877,282

*Increase.

DEVELOPMENT

District—	New Rigs Up	Active Drilling	Completed	Daily Initial Output	Active Producing	Abd. Wells—Drillers	Abd. Wells—Producers
Kern River	4	8	2	205	1,595	4	..
McKittrick	..	7	1	4	305	1	..
Midway-Sunset	20	50	16	1,270	2,946	..	..
Elk Hills	1	1	2	314	264	2	..
Lost Hills-Belridge	..	4	..	.....	296	..	..
Coalinga	1	6	1	75	979	..	1
Wheeler Ridge	..	1	..	.....	24	..	..
Watsonville	..	..	..	.....	6	..	..
Santa Maria	..	6	..	.....	233	..	23
Summerland	..	..	..	.....	135	..	..
*Ventura Avenue	7	23	2	6,585	56	..	..
Ventura-Newhall	5	32	..	.....	520	3	..
Los Angeles-Salt Lake	..	..	..	.....	376	..	1
Whittier	..	6	..	.....	188	1	..
Fullerton	1	15	2	475	429	2	1
Coyote	..	1	1	148	215	1	1
Santa Fe Springs	1	1	1	130	347	..	1
Montebello	..	10	1	150	171	1	2
Richfield	3	12	..	.....	186	..	1
Huntington Beach	12	13	5	1,596	349	4	1
Long Beach	7	61	61	2,610	790	4	6
Torrance	3	6	3	332	631	..	5
Dominguez	..	6	1	86	68	..	..
Rosecrans	2	6	2	545	124	1	..
Inglewood	2	6	2	1,213	196	1	1
Newport	..	4	..	.....	8	..	..
Miscellaneous drilling	9	109	..	.....	.....	10	..
May	78	394	58	15,738	11,437	35	44
April	69	393	95	24,267	11,389	28	22
Increase	9	1	**37	**8,529	48	7	22
Average for year 1925	105	417	79	42,247	11,393	28	12
Average for year 1924	103	510	103	42,412	10,903	28	21
Average for year 1923	111	759	82	114,690	8,928	24	
Average for year 1922	115	605	67	43,700	9,410	17	
Average for year 1921	90	536	57	15,631	9,425	14	

*Previously included with Ventura-Newhall. **Decrease.

RIVER LEASE ILLEGAL CONTENDED IN TEXAS

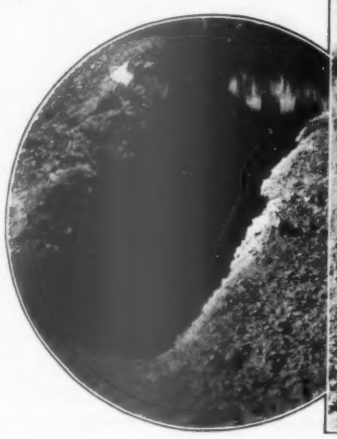
AUSTIN, Tex., June 26. — Question was raised before the Supreme Court that the land commissioner is without authority to issue permits to explore for minerals in the beds of streams classed or defined as navigable under the laws of Texas, those being 30 feet or more in width. This contention was made by William E. Hawkins, former Supreme Court judge. As counsel for Atkins in the case involving the right of the courts to order roads across private lands to reach points in river beds where permits have been issued. The case was Texas vs. Black Brothers, from Travis, which was decided in favor of roadways without court proceedings or compensation in the district court and reversed in the Appellate Court.

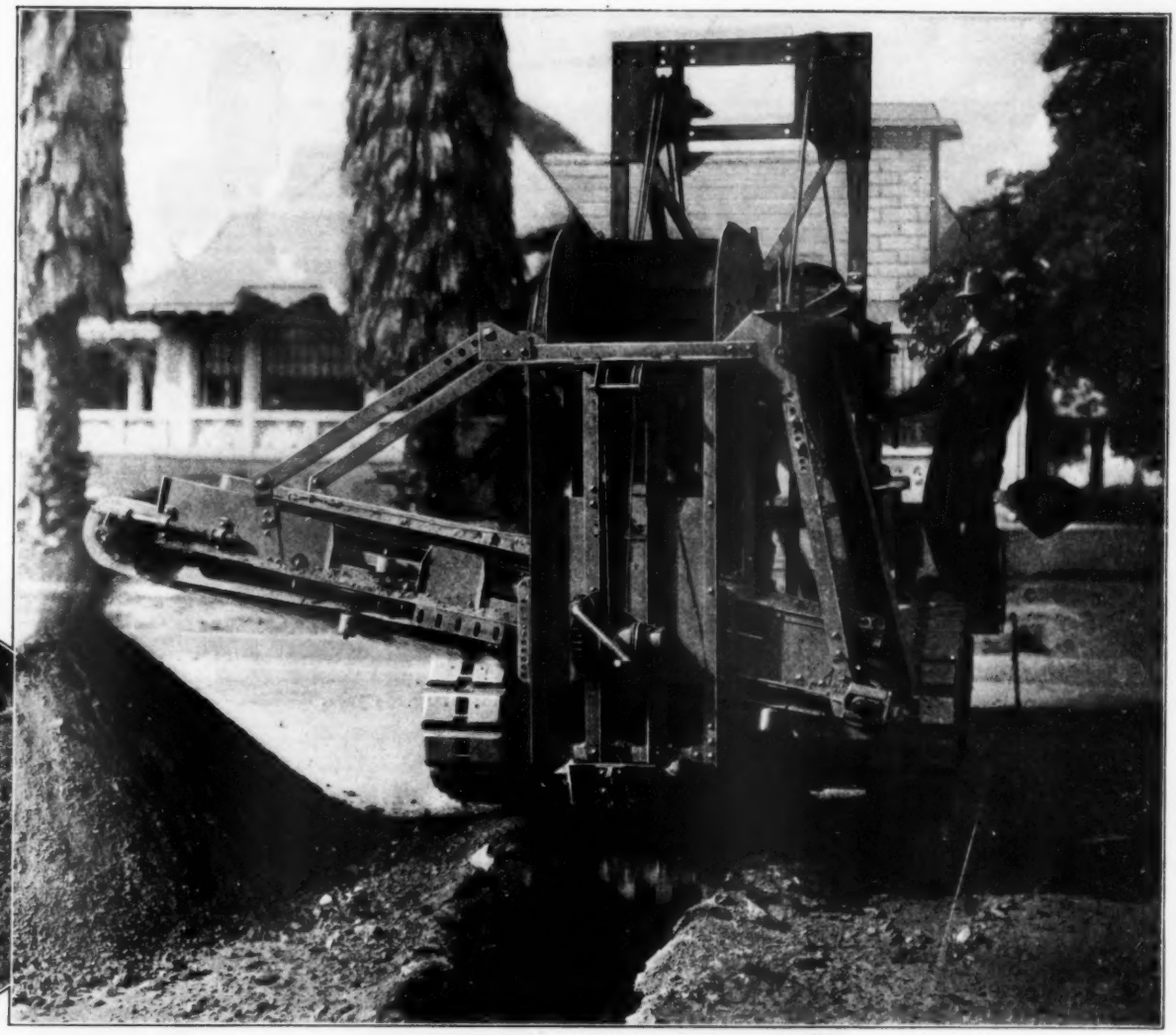
The State issued a permit to explore the bed of the Clear Fork of the Brazos in Stephens County, a defined navigable stream. There was no public highway reaching the permit area and the permittees and the State joined in a proceeding to compel the abutting land owners to permit ingress and egress. That was the original question and Judge Hawkins, representing one of the contesting land owners raised the question that permits cannot be legally issued to the beds of navigable streams and calls upon the court to decide it.

SKELLY RADIOS TO PANHANDLE

The Skelly Oil Co.'s main offices in Tulsa are connected by radio with the Panhandle Oil Field in Texas, about 400 miles distant. The first message was received from Amarillo last Thursday. The 45-word radiogram, relayed through the El Dorado, Kans. main station, came through in five minutes.

Cutting through a 5-inch asphalt pavement with the famous Barber-Greene "Milling Action" Digging boom. And, below is a close-up sample of the trench—it's cut cleanly and sharply. ***Cutting Mains and Services*** *gives the costs that the Barber-Greene has established. Send for a copy.*





Wherever you go you'll find
the ditcher that couldn't be built

Four years ago, gossip said that no successful vertical boom ditcher could be built.
Barber-Greene built one.
That ditcher introduced the first radical advancement of design in twenty years.
Four years ago ditching was done by huge, cumbersome, expensive machines or hand labor.
Today the Barber-Greene is replacing both.
It is sweeping the country. To the best of our knowledge its sales last year totalled more than any other one machine.
It effectively meets the demand for a light weight, compact machine that can dig in tight corners or straight-away.
All of Barber-Greene's experience has been put into building this one model ditcher that gossip said couldn't be built.
Barber-Greene started building it four years ago without prejudices, and without old-fashioned ideas.
Today, wherever you go you'll find Barber-Greene Ditchers.
They're stepping off 5,000 and 6,000 feet of pipe line trench per day. They're cutting safely through the maze of conduits and mains that lie under city streets. They're "milling" through the frozen ground of Montreal. They're climbing the rough and rocky hills of Kentucky.
Yet four years ago gossip said a vertical boom ditcher couldn't be built. The Barber-Greene Company, 600 W. Park Ave., Aurora, Ill..

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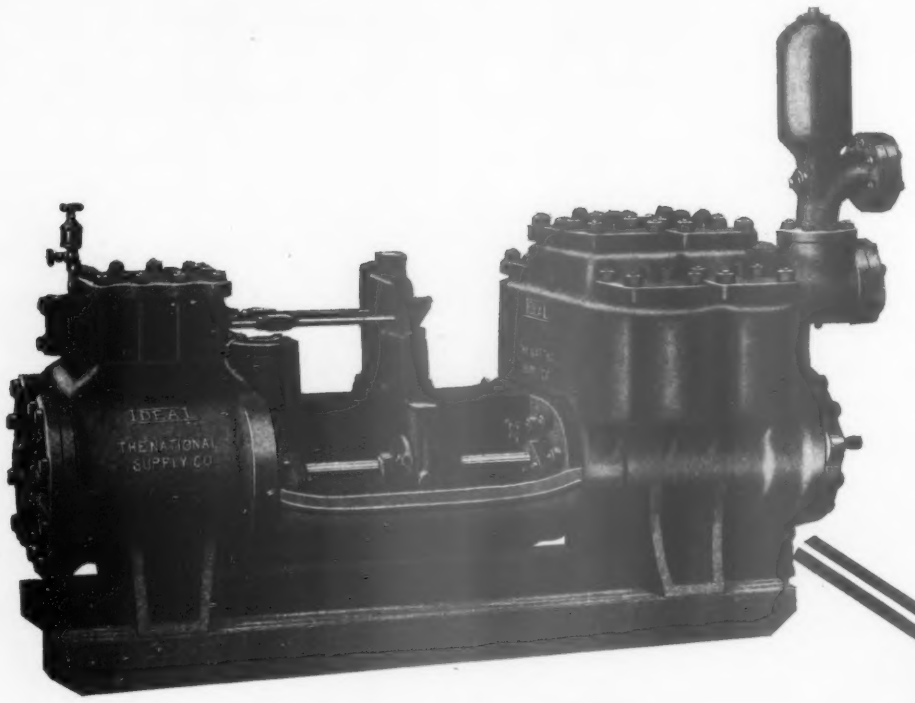
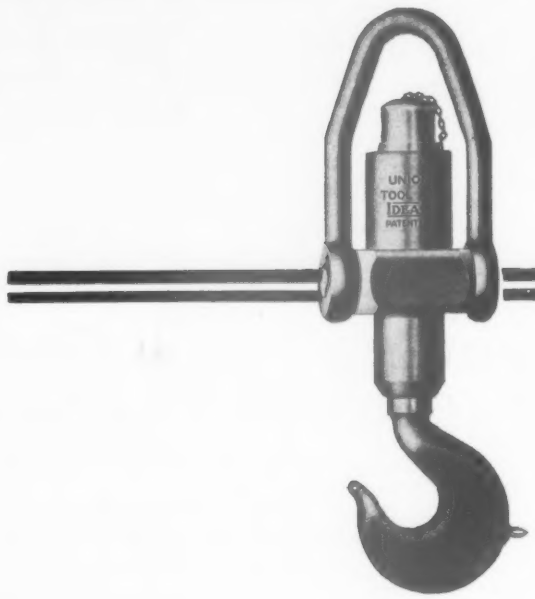
VERTICAL BOOM
Only the Barber-Greene has the vertical boom that provides the machine tool "milling" action digging.

OVERLOAD RELEASE SPROCKET
Only the Barber-Greene has the patented automatic release sprocket that protects both the Barber-Greene and what it encounters underground.

BARBER-GREENE COMPANY, 600 W. Park Ave., Aurora, Ill.
Representatives in 50 Cities





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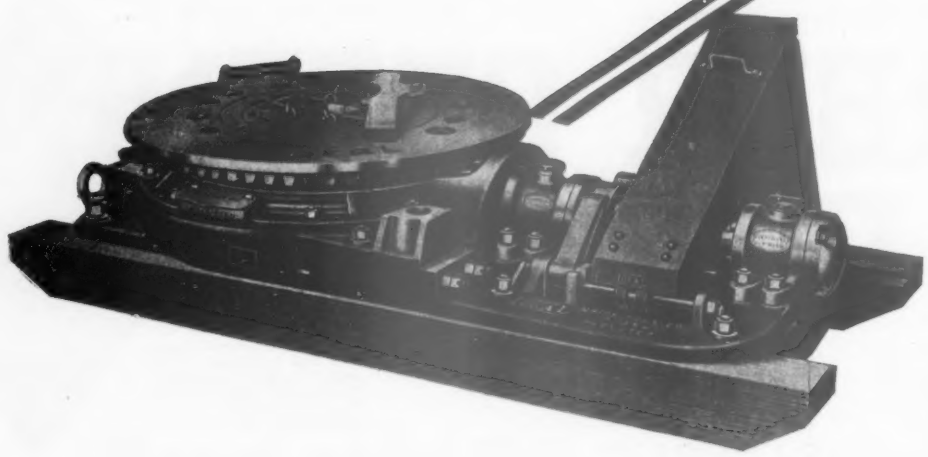

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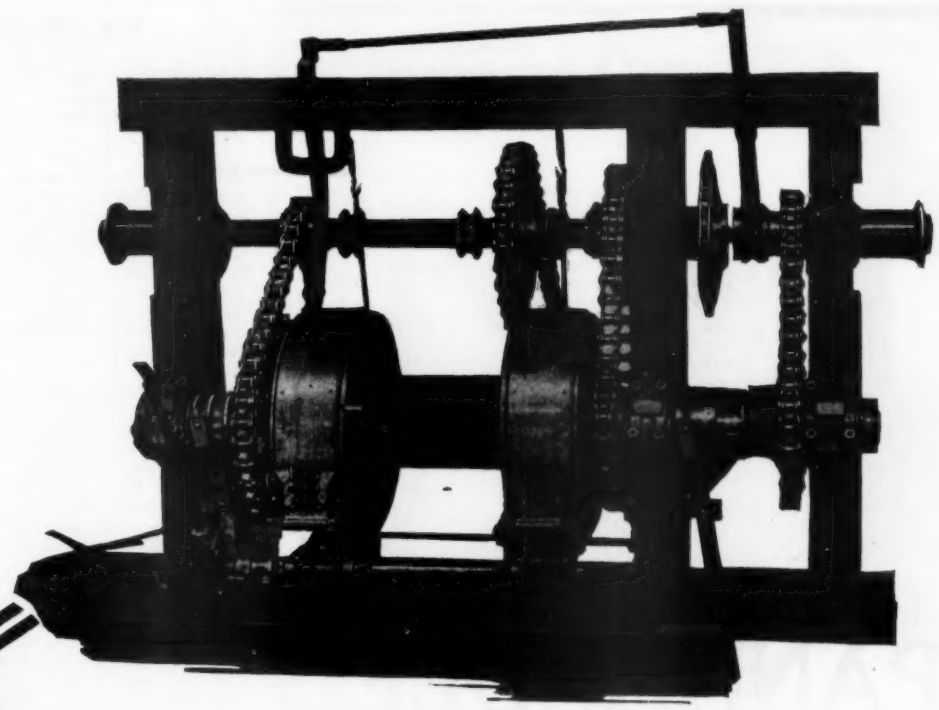

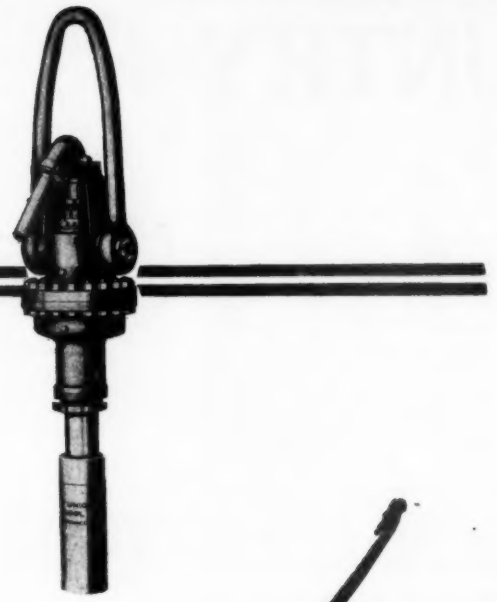

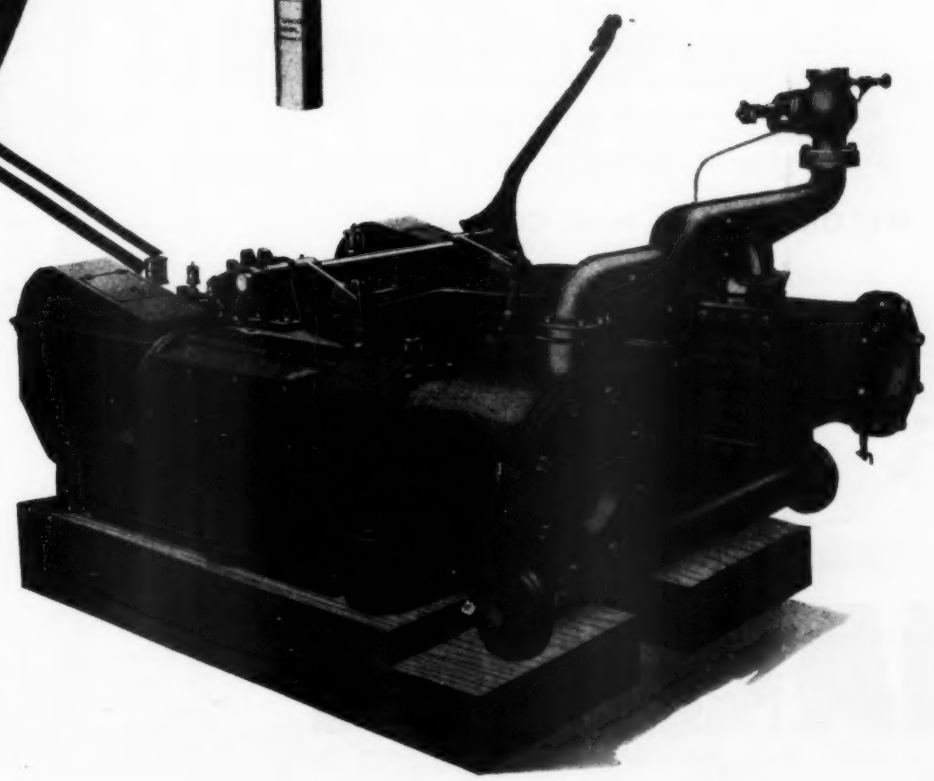

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KEYSTONE COPPER STEEL

Maloney Tanks, Hutchinson County, Texas

PANHANDLE COUNTRY

The above is a typical view in the great Panhandle district of Texas, suggesting the vast stretches of flat, sandy country. This view is on a lease of the Panhandle Refining Co., in Hutchinson County.

It pays to buy the best *always*, but especially in new territory like this, where transportation is undeveloped and costly, and durability pays double. This is one reason why the tanks seen in the picture are MALONEYS, and why MALONEY has enjoyed a tremendous business from the Panhandle district. The durability of MALONEY material — Keystone Copper Steel — and the exceptional vapor-gas tightness insured by the MALONEY patented crimped seams and joints, especially appeal to operators in this district.

MALONEYS are perfected in every detail. See our distributor, Panhandle Tank Co., Amarillo and Artesia.

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MADE OF KEYSTONE COPPER STEEL — MALONEY PATENTED BOLTED COPPER-STEEL TANKS — MADE OF KEYSTONE COPPER STEEL

MALONEY

MALONEY

OKLAHOMA'S SLUMP IS EMPHASIZED BY PRODUCTION FIGURES FOR MAY

The crude oil production of the five Mid-Continent states of Kansas, Oklahoma, Texas, Arkansas and Louisiana in May exceeded that of April by 2,021,372 bbls., but as May was a 31-day month and April a 30-day period the difference was not so startling when divided up into average production per day. May's daily average exceeded that of April by 26,857 bbls. Most of this gain was in the Mid-Continent fields, where the average daily production was 22,949 bbls. more in May than in the month just previous, and the Gulf Coast and Southwest Texas fields showed an increase of 3,908 bbls. The total production of the five states in May was 37,685,522 bbls. Compared with the production in May, 1925 shows a great decline. May, 1925, saw a production in the five states of 44,715,386 bbls. or 7,029,864 bbls. more than was produced this year. On a daily average basis the figures indicate that the five states in May this year produced 226,769 bbls. per day less than they did in May last year.

The divisions showing a gain in May over April were Kansas, average daily production 113,440 bbls., a gain of 2,436 bbls.; North Texas, 91,948 bbls., increase of 576 bbls.; Central Texas, 42,705 bbls., increase of 2,986 bbls.; West Texas, 37,763 bbls., increase of 1,313 bbls.; Panhandle Texas, 28,287 bbls., increase of 15,158 bbls.; East Central Texas, 59,763 bbls., increase of 1,664 bbls.; Arkansas, 176,869 bbls., increase of 5,952 bbls.; North Louisiana, 59,055 bbls., increase of 7,169 bbls.; Gulf Coast, 98,891 bbls., increase of 4,156 bbls., a gross increase of 41,410 bbls., which was offset somewhat by declines in Oklahoma where the production was 471,968 bbls., or a decrease of 14,305 bbls. per day as compared with April, and Southwest Texas, 38,973 bbls., a decline of 248 bbls., a net increase in May of 30,857 bbls.

SUMMARY BY PRODUCING DIVISIONS

Mid-Continent Fields	Daily Av.	Mo. Av.
Kansas	113,440	3,516,640
Oklahoma	467,968	14,507,008
North Texas	91,948	2,850,388
Central Texas	42,705	1,323,855
West Texas	37,763	1,170,653
Panhandle Texas	28,287	876,897
East Central Texas	59,763	1,852,653
Arkansas	176,869	5,482,939
North Louisiana	59,055	1,830,705
Total May	1,077,798	33,411,738
Total April	1,054,849	31,645,470
Difference	22,949	1,766,268
Gulf Coast and Southwest Texas		
Gulf Coast (Tex.-La.)	98,891	3,065,621
Southwest Texas	38,973	1,208,163
Total May	137,864	4,273,784
Total April	133,956	4,018,680
Difference	3,908	255,104

PRODUCTION BY STATES		
Kansas	113,440	3,516,640
Oklahoma	467,968	14,507,008
Texas	392,987	12,182,597
Arkansas	176,869	5,482,939
Louisiana	64,398	1,996,338
Total May	1,215,662	37,685,522
Total April	1,188,805	35,664,150
Difference	26,857	2,021,372

KANSAS
Daily Average and Total Monthly Production in May, 1926

	Daily Ave.	Mo. Av
Marion County:		
Florence	1,293	40,083
Peabody	1,869	57,939
Covert-Sellers	770	23,870
Total	3,932	121,892
Butler County:		
Elbing	2,836	87,916
Potwin	371	11,501
Cameron-Robinson	588	18,228
Wilson-Dunkle	1,791	55,521
Towanda	2,763	85,653
Fox Bush	1,764	54,684
Nuttle-Koogler	1,959	60,729
Eldorado	6,514	201,934
Smock	271	8,401
Leon-Weaver	906	28,086
North Augusta	1,386	42,966
South Augusta	1,986	61,566
Sluss	424	13,144
Douglass	134	4,154
Eastern Butler	5,296	164,176
Total	28,989	898,659
Greenwood-Woodson Counties:		
Sallyards	1,761	54,591
Teeter-Pixley-Scott	20,429	633,299
Virgil	4,570	141,670
Thrall-Burkett	4,202	130,262
Seely	14,604	452,724
Polhamus	2,210	68,510
Miscellaneous	1,141	35,371
Total	48,917	1,516,427
Cowley County:		
Rainbow Bend	4,199	130,169
Slick	1,589	49,259
Graham	1,308	40,548
Rock (Twp. 30-4)	351	10,881
Clark (Twp. 31-5)	329	10,199
Eastman (Twps. 30-6 and 31-6)	854	26,474
Winfield-New Salem (Twps. 32-4 and 32-5)	1,864	57,784
Miscellaneous	416	12,896
Total	10,910	338,210
Other Counties:		
Sumner	320	9,920
Rice	180	5,580
Russell	5,785	179,335
Harvey	56	1,736
Chautauqua	2,452	76,012
Elk	1,989	61,659
Wilson	256	7,936
Montgomery	1,933	59,923
Allen	799	24,769
Neosho	664	20,584
Lyon	1,585	49,135
Miami	458	14,198
Franklin	530	16,430
Douglass	44	1,364
Bourbon	20	620
Linn	241	7,471
Anderson	3,353	103,943
Labette	27	837
Total	20,692	641,452
Total May	113,440	3,516,640
Total April	111,004	3,330,120
Difference	2,436	186,520

OKLAHOMA
Daily Average and Total Monthly Production in May, 1926

	Daily Av.	Mo. Av.
Washington County	5,904	183,024
Nowata County	4,714	146,134
Rogers County	1,577	48,887
Osage and Eastern Kay Counties:		
Burbank	41,092	1,273,852
Osage, outside Burbank	32,633	1,011,623
Total	73,725	2,285,475
Tulsa County:		
Bird Creek, Owasso, etc.	3,992	123,752
Red Fork, Sand Springs, Bruner, Turkey Mountain and Fisher	3,806	117,986
Bixby, Leonard and Jenks	3,194	99,014
Broken Arrow and Coweta	1,186	36,766
Total	12,178	377,518
Okmulgee, Muskogee and N. Okfuskee Counties:		
Mounds, Beggs, Hamilton Switch, Youngstown	11,117	344,627
Bald Hill and Haskell	3,169	98,239
Morris, Boynton and Cole	3,093	95,883
Okmulgee	2,544	78,864
Tiger Flats, Henryetta Schulter and Bartlett	4,413	136,803
Total	24,336	754,416
Okfuskee, Seminole and Hughes Counties:		
Deaner-Lyons	4,306	133,486
Wewoka	31,913	989,302
Cromwell	17,762	550,622
Papoose-Gilcrease	11,533	357,523
Okemah	163	5,053
Weleetka	1,404	43,524
Wetumka	40	1,240
Yeager	735	22,785
Miscellaneous	1,335	41,385
Total	69,191	2,144,921
Creek County:		
Cushing-Shamrock	20,017	620,527
Mannford-Olive	766	23,746
Glenn Pool, Sapulpa and Kiefer	9,206	285,386
Bristow, Kellyville and Depew	23,066	705,146
North Bristow (Twp. 17-8)	3,980	123,380
Eastern Bristow or Slick	5,883	182,373
Total	62,918	1,950,458
Pawnee County:		
Cleveland	4,220	130,820
Keystone	1,813	56,203
Jennings	5,440	168,640
Otoe or Watchorn	2,712	84,072
Masham	149	4,619
Ralston	263	8,153
Total	14,597	452,507
Payne County:		
Yale, Quay and Ingalls	10,569	327,639
North Cushing or March Pool	1,419	43,989
Deep Rock (23-18-3)	3,486	108,066
Total	15,474	479,694
Lincoln County:		
Stroud	2,282	70,742
Davenport	12,218	378,758
Kendrick or Skelly	3,748	116,188
Total	18,248	565,688
Kay, Grant and Noble Counties:		
Blackwell	1,704	52,824
Northwest Blackwell	2,166	67,146
Deer Creek	85	2,635
Ponca City	883	27,373
Mervine	333	10,323
North Braman	2,515	77,965
South Braman	12,253	379,843
Hubbard	1,901	58,931
Thomas	3,990	123,690
Tonkawa	36,895	1,143,745
Billings	387	11,997
Miscellaneous	286	8,866
Total	63,398	1,965,338
Garfield County:		
Garber	38,907	1,206,117
Carter County:		
Healdton	15,207	471,417
Hewitt	11,465	355,415
Graham	8,530	264,430
Fox	3,034	94,054
Brock	1,582	49,042
Tussy or Scholem Alechem	3,480	107,880
Total	43,298	1,342,238
Stephens-Cotton Counties:		
Loco-Milroy	2,316	71,796

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fast rotary service

—and also for casing service

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Spring Latch
Rotary
Elevator

Leading supply stores carry Wilson Elevators in Rotary and Casing types in all sizes.

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REGULAR STYLE NECO PUMP which has long been a favorite in the Eastern Fields where the great advantages of its exclusive design and operation were first fully demonstrated.

HERE IS ONE OF THE popular Neco Traveling Valves used in every Eastern Oil Field.

TEXAS STYLE NECO PUMP of which thousands are in Mid-Continent service. In many cases with very large companies this Neco Pump has become standard and practically exclusive equipment.

THIS NECO TRAVELING VALVE is especially designed to meet pumping conditions in the West.

NECO NON-CORROSIVE BALL AND SEAT—made from a Special Alloy for use in wells where acid water is troublesome.

In Pumping Equipment there's a Neco particularly made to meet each and every requirement. *Ask for Literature.*

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Comanche	915	28,365
Duncan	5,803	179,893
Walters	964	29,884
Kilgore	579	17,949
Knox (2-2n-5w)	885	27,435
Total	11,462	355,322
Pontotoc County:		
Lloyd	151	4,681
Allen	271	8,401
Frances	48	1,488
Total	470	14,570
Caddo County:		
Cement	1,688	52,328
Garvin County:		
Robberson	2,843	88,133
Beckham:		
Sayre	75	2,325
Jefferson County:		
Hambro	2,841	88,071
Pottawatomie County:		
Maud	34	1,054
Marshall County:		
Madill	90	2,790
Total May	467,968	14,507,008
Total April	482,273	14,468,190
Difference	14,305	38,818

NORTH AND CENTRAL TEXAS
Daily Average and Total Monthly Production in May, 1926

North Central Texas:	Daily Av.	Mo. Av.
Burkburnett	12,214	378,634
Electra	16,611	514,941
Iowa Park K.M.A.	4,306	133,486
Archer County	34,469	1,068,539
Clay County	471	14,601
Wilbarger County	14,344	444,664
Montague County	2,670	82,770
Young County	6,712	208,072
Baylor County	151	4,681
Total	91,948	2,850,388
Central Texas:		
Clear Fork	5,285	163,835
Breckenridge	5,777	179,087
Caddo	3,299	102,269
Ranger-Eastland	4,963	153,853
Rising Star	91	2,821
Sipe Springs	147	4,557
Desdemona	1,795	55,335
Pioneer	682	21,142
Brown County	7,277	225,587
Calahan County	3,712	115,072
Coleman County	1,601	49,631
Throckmorton County	623	19,313
Jack County	94	2,914
Palo Pinto County	542	16,802
Shackelford	6,827	211,637
Crane County	45	1,395
Reagan County (Big Lake)	33,149	1,027,619
Mitchell County	3,466	107,446
Howard County	49	1,519
Scurry County	51	1,581
Upton County	362	11,222
Crockett County	641	19,871
Total	80,468	2,494,508
Panhandle:		
Carson County	2,811	87,141
Hutchinson County	24,888	771,528
Wheeler County	78	2,418
Gray County	458	14,198
Potter County	52	1,612
Total	28,287	876,897
East Central Texas:		
Powell	30,203	936,293
Mexia	19,066	591,046
Currie	939	29,109
Richland	1,496	46,376
Wortham	8,059	249,829
Total	59,763	1,852,653
Total May	260,466	8,074,446
Total April	238,769	7,163,070
Difference	21,697	911,376

NORTH LOUISIANA
Daily Average and Monthly Production in May, 1926

	Daily Av.	Mo. Av.
Bellevue	2,445	75,795
Caddo light	9,532	295,492
Caddo heavy	2,585	80,135
Cotton Valley	8,722	270,382
De Soto and Red River	4,044	125,364
Elm Grove	575	17,825
Haynesville	10,214	316,634
Homer	6,267	194,277
Urania	14,671	454,801
Total May	59,055	1,830,705
Total April	51,886	1,586,580
Difference	7,169	244,125

ARKANSAS
Daily Average and Monthly Production in May, 1926

	Daily Av.	Mo. Av.
Smackover heavy	134,932	4,182,892
Smackover light	17,365	538,315
El Dorado	8,412	260,772
Lisbon	11,069	343,139
Nevada	3,177	98,487
Stephens	1,914	59,334
Total May	176,869	5,482,939
Total April	170,917	5,127,510
Difference	5,952	355,429

GULF COAST
Daily Average and Monthly Production in May, 1926

	Daily Av.	Mo. Av.
Boling	6,794	210,614
Batson	1,445	44,795
Blue Ridge	770	23,870
Big Creek	1,069	33,139
Barber Hill	331	10,261
Dayton	54	1,674
Damon Mound	868	26,908
Edgerly (La.)	658	20,398
Goose Creek	9,870	305,970
Humble	4,585	142,135
Hull	20,800	644,800
High Island	500	15,500
Jennings (La.)	1,258	38,998
Markham	72	2,232
Nash Dome	1,760	54,560
Orange	11,304	350,424
Orchard	69	2,139
Pierce Junction	1,760	54,560
Piedras Pintas	131	4,061
Spindletop	6,587	204,197
Saratoga	1,375	42,625
Sour Lake	5,070	157,170
South Liberty	5,741	177,971
Vinton (La.)	6,352	196,912
West Columbia	9,470	293,570
Welsh-Anse La Bute (La.)	75	2,325
*Miscellaneous	123	3,813
Total May	98,891	3,065,621
Total April	94,735	2,842,050
Increase	4,156	223,571

SOUTHWEST FIELDS
Daily Average and Monthly Production in May, 1926

District—	Daily Av.	Mo. Av.
Luling	22,210	688,510
Mirando	7,669	237,739
Somerset	2,150	66,650
Calliham	151	4,681
Rockdale-Minerva	968	30,008
Lockhart (Lytton Springs)	5,825	180,575
Total May	38,973	1,208,163
Total April	38,221	1,176,630
Increase	248	31,533

CALIFORNIA RECEIPTS AND PETROLEUM IMPORTS

Imports of crude and refined oils at the principal United States ports for the week ended June 19, totaled 1,563,000 bbls., a daily average of 223,285, compared with 1,640,000 bbls., a daily average of 234,285 bbls. for the week ended June 12, and a daily average of 233,964 bbls. for the four weeks ended June 19.

At Atlantic Coast Ports—	Week Ended June 19
Baltimore	63,000
Boston	76,000
New York	761,000
Philadelphia	48,000
Total	948,000
Daily average	135,428
At Gulf Coast ports—	
Galveston District	256,000
New Orleans and Baton Rouge	230,000
Port Arthur and Sabine District	129,000
Total	615,000
Daily average	87,857
At all United States Ports—	
Total	1,563,000
Daily average	223,285
Daily average 4 weeks ended	233,964

Receipts of California crude and refined oils at Atlantic and Gulf Coast ports for the week ended June 19 totaled 799,000 bbls., a daily average of 114,143 bbls. against 343,000 bbls., a daily average of 49,000 bbls. for the week ended June 12, and a daily average of 93,429 bbls. for the four weeks ended June 19.

At Atlantic Coast Ports—	Week Ended June 19
Baltimore	130,000
Boston	97,000
New York	468,000
Philadelphia	104,000
Total	799,000
Daily average	114,143
Ttl. Atlantic and Gulf Coast ports	799,000
Daily average	114,143
Daily average 4 weeks ended	93,429

Distribution of Total California Oil receipts is as follows:

Crude	377,000
Gasoline	198,000
Fuel oil	166,000
Lubricating	58,000
Total	799,000

SALT WATER ROADS

ENID, Okla., June 26.—The salt water problem has been solved in the Garber-Covington Oil Field in Garfield County. Roads through the field are being kept free from dust by the use of salt water from the oil wells, by the Sinclair Oil & Gas Co., which has in operation a road sprinkler. In addition two and three company employes are kept busy with the hose near the company's offices in the field. The salt water causes the road to become packed with mineral substances.

HARRY SCOTT GRAYSON DEAD

WASHINGTON, Pa., June 24.—Harry Scott Grayson, 62, wealthy oil man, died at his home here Wednesday. He was interested in production in the southwestern Pennsylvania field, in Illinois and Louisiana. He also established the Lakeland stock farm at Jamestown, N. Y., where he raised trotting horses.

SCHOOL LAND SALE

The commissioners of the land office of the State of Oklahoma will receive sealed bids until 2 p. m. July 27 for oil and gas leases on school lands described as Tract 1 northeast quarter of Section 16-13-6, 160 acres, and Tract 2, north half of the southeast quarter of Section 16-13-6, 80 acres, both tracts lying in Lincoln County.

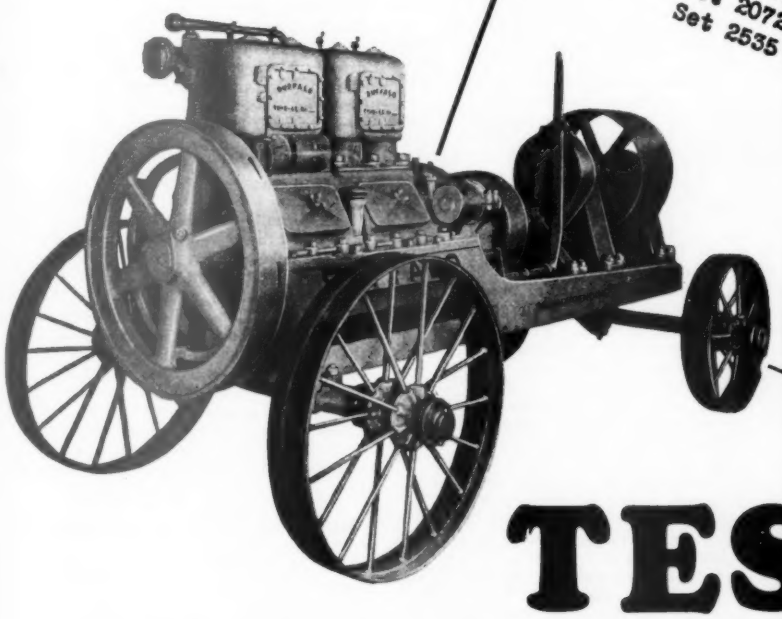
Buffalo TESTS

Well was drilled by Ballard & Burns with a Buffalo Drilling Unit for the Mississippi Valley Oil & Gas Company on the Pixlee farm, 12 miles west of Madison, Kans.

Drilled in 30 days including underreaming. Started in a 20-in. hole, completed at a depth of 2535 feet. Not even a five minute shut down from engine trouble. Fuel cost less than $10. per day.

Casing Record

Set 212 ft. of 15½ in. Casing
Set 1010 ft. of 12½ in. Casing
Set 1570 ft. of 10 in. Casing
Set 2072 ft. of 8¼ in. Casing
Set 2535 ft. of 6-5/8 in. Casing



Prove the Superiority of the Buffalo Drilling Unit

Wherever it is used the Buffalo Drilling Unit is piling up new records of efficiency. Read what one Buffalo Drilling Unit did in Greenwood County, Kansas.

The Buffalo Drilling Unit is built to meet the actual conditions found in the fields. It has plenty of power—a four-cylinder, 6¾"x 9" engine with full pressure lubrication, speed 250 to 800 r.p.m.

It operates on gas, gasolene or both. The whole outfit is mounted on a solid cast steel frame which makes shifting of alignment impossible. It needs no special foundation for setting—it can be rigged up in one hour.

It generates light for the derrick. Considering its power it is light and easily portable — saves $40.00 to $100.00 per well, moving cost.

The speed is limited by a governor, which is positive, quick-acting, simple and dependable. The engine is always under control by means of the usual telegraph cord operating control switch.

No distortion on the clutch from action of belt pull. The drive shaft from the clutch has a hardened, ground and heat-treated pinion mounted on it. This pinion engages a large, hardened and heat-treated gear which drives the pulley shaft. The drive pulley shaft is 4" in diameter and carries a 26" pulley with 14" face. The shaft is supported on either side of pulley by heavy "A" steel supports. All gears are cut, heat-treated, hardened and ground.

The Buffalo Drilling Unit can be used on standard rigs and all makes of drilling machines. No outfit surpasses it for economy and efficiency.

Write for Prices and Full Information

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Wire Line Beam Hanger

Full adjustment of Mule Head.
Quick, detachable rope end.
All steel quick release grip.
Swivel self oiling steel yoke casting on beam.
This hanger may be used with or without the straight lift rope guides and is so priced.
Will handle a stroke 7 feet long.
Weight, 290 lbs.

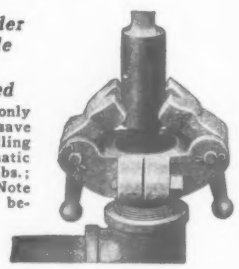
Sucker Rod Rotator

Designed for use with Lightning Hanger, but works with almost any make of hanger, constructed almost entirely of steel—rotates on heavy duty ball bearing. Friction disk eliminates danger of twisted rods. 100 teeth on ratchet so that a very small degree of turn may be made or as much as 1-16 of turn as desired. Perfect, simple and dependable.

Weight, 180 pounds

Sucker Rod Spider and Bell Nipple Combined
Open and Closed

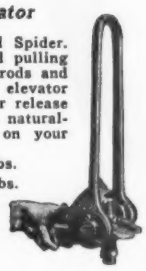
With this you need only one elevator and save 50% of your pulling time. Action automatic and sure. 2-in., 10 lbs.; 2½-in., 15 lbs. Note high speed elevator below.



High Speed Elevator

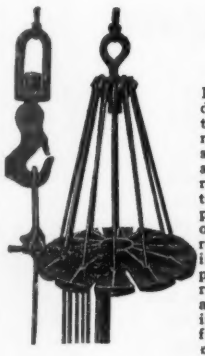
For use with Sucker Rod Spider. The most satisfactory rod pulling outfit made. Avoids bent rods and lost time. Rods cradle in elevator body and will not kink or release accidentally. Snaps on as naturally as placing your hat on your head.

Light pattern, 12 lbs.
Heavy pattern, 15 lbs.



Stuffing Box

The lightning T. S. Lubricator Stuffing Box satisfies under the most adverse conditions.



Rod Rack Turns on Ball Bearings

Rods may be placed directly from elevator to rack, saving much time. Holds 66 strands in perfect alignment and being round may be easily turned to any desired position. All danger of bent or kinked rods eliminated as it is only necessary to pull and hang the rods. A time saver, and should be placed in all derricks where frequent pulling occurs.

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Stuffing Boxes
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V-Swings, Jacks
Polished Rod Rotators
Casingheads
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Stocks for Delivery at These Points:

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ALL REPUBLIC SUPPLY STORES
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Write for showing of full line.

Kansas City Hay Press Co., Kansas City, Missouri

President W. S. Farish Says Panhandle Area Is One of the Greatest

AMARILLO, Tex., June 26.—West Texas represents one of the greatest areas of oil and gas in the world, W. S. Farish, president of the Humble Oil & Refining Co. and president of the American Petroleum Institute, told the West Texas Chamber of Commerce convention at its eighth annual meeting.

Mr. Farish predicted a great area of development ahead of the present activity in the Panhandle Field. After outlining the geological aspects of the west Texas section, he said: "The picture I have drawn is the foundation on which we base our hope and belief that oil in great volume will come from west Texas. We can not safely predict in barrels what the future production will amount to. We have no secure method of estimating how many pools will be found in the 50,000,000 or more acres over which conditions must be locally favorable.

"We know that the Panhandle ridge play alone has already developed a daily production in excess of 50,000 bbls., although it is just now at the threshold of intensive exploitation, and we know that the balance of our prospective territory, yet barely scratched, has likewise attained a daily production of about 50,000 bbls. I refer to the other producing areas in this west Texas area. The proven territory along the granite ridge may be said to exceed 100 square miles.

"Even a minimum estimate of per acre yield gives this proven area alone an expectancy in excess of 500,000 bbls., or say, 5 per cent of the total past production of our nation. It is also extremely likely that the daily average production of west Texas and eastern New Mexico will reach 200,000 bbls. in time, so as to become equivalent of 10 per cent of our total national production."

Mr. Farish spoke of the gas resources of this section also. "The gas-producing area," he said, "is greatly in excess of the oil-producing area, and we may safely say that this entire west Texas province of oil has in the value and the volume of its gas deposits untold wealth in the form of heat and power. This means cheap electricity and all that goes with it." He spoke of Amarillo as being today "the center of development of oil fields of greater promise than any with which the petroleum industry has had to deal with in recent years."

The speaker painted a glowing picture of the possibilities in west Texas. "As I visualize the future of this great west Texas empire," he said, "its possibilities are staggering. You have one of the greatest areas of oil and gas in the world. Your farming areas are unsurpassed. Your cattle ranges are magnificent. Your mineral deposits, with the exception of oil and gas, are as yet untouched. You have a great area over which potash is known to be present. Let us hope that in the near future we will see successful production of potash in west Texas."

Among those present, in addition to Mr. Farish and Mr. Collett, who spoke briefly were: Frank Phillips, president Phillips Petroleum Corp. and Clyde Alexander, vice president Phillips Petroleum Corp.

R. G. Barnum of Amarillo was chairman of the committee in charge of arrangements, and toastmaster.

BIPLANE TO SEEK OIL

CHATHAM, Ont., June 26.—Four members of the Northern Syndicate, Ltd. of Calgary, left Edmonton this week in a large Vickers amphibian biplane for the north. They plan to spend the summer in cruising the country northeast of Great Slave Lake, prospecting for minerals and oil. If conditions permit a trip through to the Arctic will be attempted.

BENNETT JOINS MARLAND

E. O. Bennett, formerly oil recovery engineer of the Bureau of Mines, stationed at Bartlesville, Okla., has joined the constantly growing force of the Marland Oil Co. of Texas, with Forth Worth headquarters. Mr. Bennett assumed his new duties as manager of production engineering last Monday, June 21, and after spending a few days in Fort Worth office left for Amarillo to study conditions in the Panhandle Field.

Millions Involved in Sale of J. T. Jones Leases to Forest Oil

BRADFORD, Pa., June 26.—One of the largest oil deals ever consummated in the eastern fields was closed here when the Forest Oil Corp. acquired the vast acreage of the J. T. Jones estate. The amount involved was not disclosed but the purchase price is understood to run well into the millions of dollars.

The J. T. Jones estate consists of about 2,500 acres in fee, located in and about the east and west branches of Tuna Creek and extending around Dallas City and Knapp Creek. The present production of the property is one of the largest of any single holding in the Bradford Field.

The Forest Oil Corp. likewise is known as one of the largest producing concerns in this section. It was incorporated in 1916, and its growth has been practically unparalleled in the history of the Bradford Field. Forest D. Horn is president of the corporation. Other officers are J. Herbert Lester, vice president; Clayton G. Dorn, treasurer; Raymond J. Brennan, secretary. The corporation owns extensive holdings in all parts of the field, totaling about 2,000 acres in fee.

The history of the development of the J. T. Jones estate is most interesting. Capt. Joseph T. Jones was one of the largest oil producers in the United States in the eighties.

The first 13 wells he drilled for oil proved worthless, and exhausted his finances. He struggled on, however, and, his fortune changing he became by far the most extensive producer in the Bradford Field, eventually owning nearly 500 producing wells. Upon his death, his property was taken over by his estate, where the management has rested under A. L. Stover until the present deal transfers the vast holdings to the Forest Oil Corp.

DISMISSES SUIT ON PLYMOUTH

PITTSBURGH, Pa., June 26.—Dismissal of the suit brought by William H. Henderson of Pittsburgh against the Plymouth Oil Co., involving 50,000 shares of stock and $187,500 in back dividends, was ordered by Federal Judge W. H. S. Thomson. The court ruled that Jerome G. Farquhar of Pittsburgh was entitled to a redelivery of the stock and unpaid dividends, holding that the original transfer by Farquhar to Henderson was under duress and coercion compelled by fear of arrest.

AIR PRESSURE HEARING

AUSTIN, Tex., June 26.—Hearing was held by Judge H. E. Bell, chief supervisor of the oil and gas division of the Texas Railroad Commission on the application of the Gulf Production Co. for use of air pressure for the production of oil on the Nichols lease in Archer County. Burnet & Maxon, Magnolia Petroleum Co., Atlantic Oil & Refining Co., Texhoma Oil & Refining Co., and J. A. Gardner, all of Wichita Falls, were represented.

50-BBL WELL IN OLD FIELD

OLEAN, N. Y., June 28.—A 50-bbl. oil producer, struck near Allentown, has brought back memories of the boom days in the fields of Pennsylvania grade oil. The Ebenezer Oil Co. drilled the well.

More wells will be drilled in the flood territory southeast of here this summer than have ever been drilled in one season. Most of them will be in the Richburg and Bolivar districts.

In the country southeast of Olean wells are being drilled in front and back yards of homes.

We have Bettered the BEST!

Now, more than ever, you can depend on a BOVAIRD TUBING SPIDER for the safety and satisfactory operation that has made the name "Bovaird" a good one to tie your tubing troubles to. See this Tubing Spider. Its features are so many and so outstanding that you cannot fail to note its advantages over all other types. And you need only listen to the favorable comment it has aroused among operators to learn what a success it has made in actual operation.

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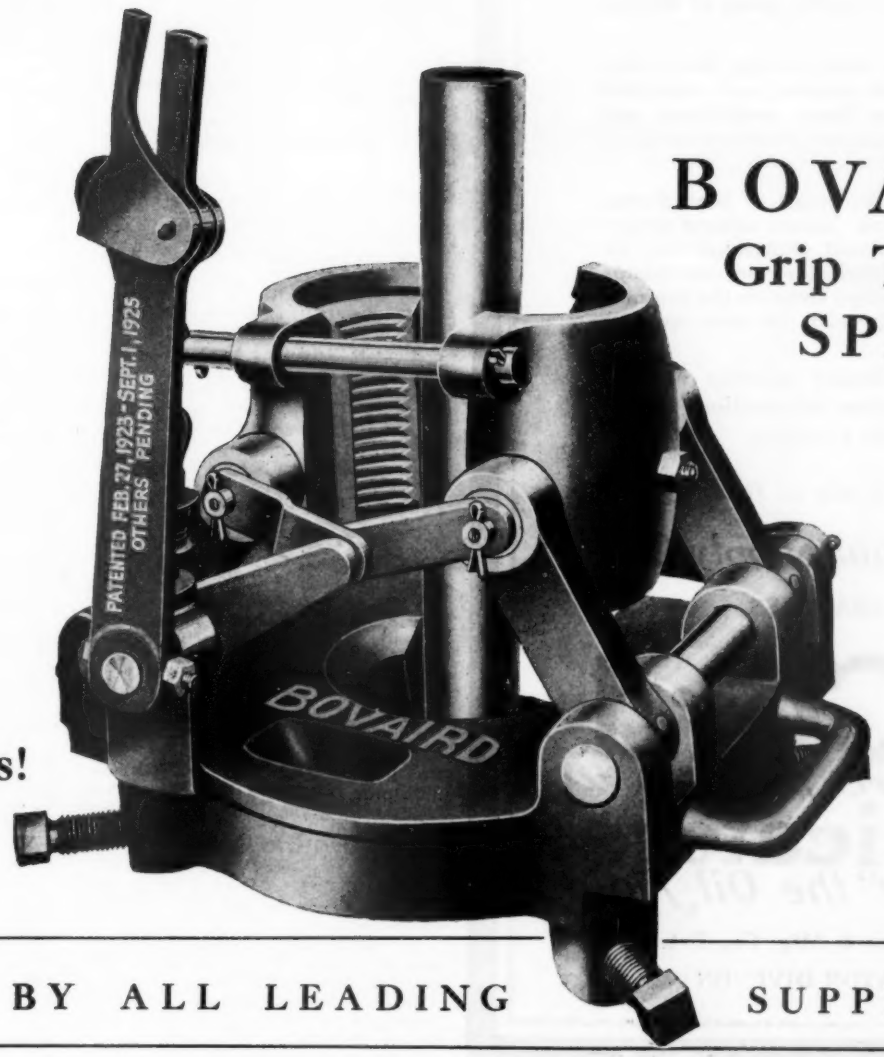

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A Grip
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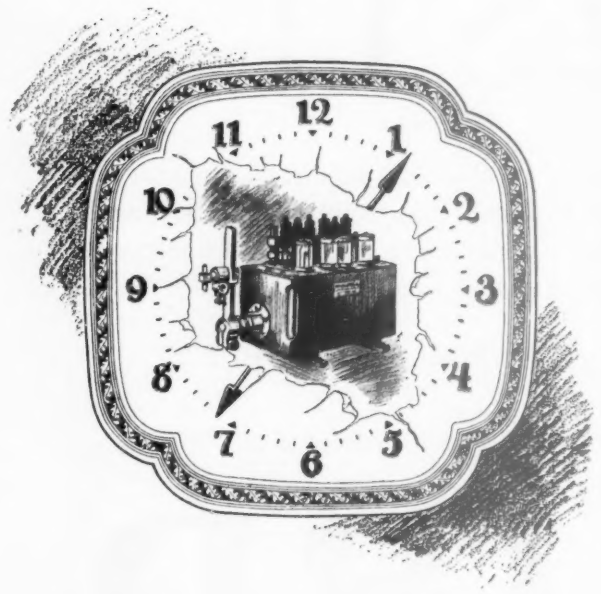
Now, Then and Always



Morning, noon and night your McCord lubricator is on the job, delivering fresh live oil the moment a wheel turns and continuing to do so as long as the engine, pump or drilling unit operates.

McCord lubricators never forget, that's why engines, drilling and pumping units equipped with McCords, have fewer breakdowns and are thus able to maintain maximum production.

Production lost as the result of breakdowns can never be regained. Insure against delays and lost time, the result of breakdowns, by specifying McCord lubricators, on new equipment as well as installing them on the engines, drilling and pumping units you now operate.

Your National Supply salesman will give you complete information, or write for a catalog.

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LUBRICATOR DIVISION

MEXICAN FIELDS

(Continued from Page 54)

Nos. 45 and 48 are each drilled 2,755 feet, but are reported going deeper.

South Fields

In the south fields, Huasteca Petroleum Co.'s No. 79 Cerro Azul is in gray shale and shells at 1,645 feet, and No. 81 is in light gray shale at 735 feet. Down in Tierra Blanca, its No. 65 is in brown shale at 1,795 feet; its No. 72 is in gray shale at 1,797 feet; its No. 77 is in brown shale at 630 feet, and three derricks are up on locations.

International Petroleum Co.'s No. 52 Toteco is in gray lime at 1,500 feet. Mexican Eagle Oil Co.'s No. 36 Cerro Veijo is in hard shale and shells at 2,318 feet; and down further south, in Furbero, its No. 37 is in blue shale and lime at 2,121 feet.

Northern Miscellany

To revert to the northern fields, the miscellaneous group are best described as follows: At Los Esteros, American International Fuel Co.'s No. 30 is in shale and shells at 1,307 feet; No. 31 is in sticky shale at 1,485 feet, and No. 32 is a derrick.

In the Marland Field, Cia. Franco Espanola, No. 54 Limon is in gray shale at 380 feet; No. 55 is in lime at 2,700 feet; No. 58 is in gray shale at 645 feet; No. 59 is in lime at 2,145 feet, and No. 60-A is in lime at 1,090 feet.

In the Topila sector, La Corona Petroleum Co.'s No. 20 Topila has cemented 4¾-inch casing in gray lime at 2,260 feet, and No. 21 is cleaning out preparing to resume from 2,225 feet, same formation. Cia. Pet. Financiera, No. 2, Lot 14 Pac. de Aguacate, is drilling at 2,240 feet, in the San Felipe, and gassing. India Oil Co.'s No. 3 Tobalo is fishing at 1,580 feet.

In the Corcovado, Transcontinental Petroleum Co.'s No. 28, Lot 6, has cemented 8-inch casing in the San Felipe at 1,275 feet. La Corona Petroleum Co.'s No. 24, same lot, is spudding. Mexican Sinclair Petroleum Corp.'s No. 4-B, Lot 1 Garruche-Corcovado, is ready to spud. Rich Mex Oil Co.'s No. 6, Lot D, is drilling around 800 feet, in shale, and caving badly.

KANSAS FIELDS

(Continued from Page 50)

4, NW cor. SE SW, Section 30-21-10, had sand at 2,199-2,271 feet and made 150 bbls. after a shot of 10 quarts. The rig is on the ground for No. 7 Atyeo, NW cor. SW SW, Section 30-21-10. Same company's No. 1, SW cor. SE, Section 30-21-10, is dry and abandoned at 2,720 feet. No. 4, SE cor. SW NW, Section 31-21-10, had sand at 2,102-62 feet and made 60 bbls. after a shot of 120 quarts. The rig is up for No. 5 Atyeo, NE cor. SE NW, Section 31-21-10. The rig is also up for No. 7 Atyeo, SW cor. NE NW, Section 31-21-10. The rig is on the ground for No. 1 Atyeo, SW cor. NE, Section 31-21-10.

Lyon County

Ramsey Petroleum Co.'s No. 1, SW cor. NE, Section 21-16-10, is dry and abandoned at 2,690 feet. Abel and others have a dry hole at 2,030 feet in No. 1, SW cor. SW, Section 11-18-12. Connell and others are drilling at 750 feet in No. 1 Lewis, SW cor. SW, Section 4-20-11. Gashe & Ballierre have spudded No. 1 Stratton, SE cor. NW, Section 25-20-11. The Amerada Petroleum Corp. and others have built a rig for No. 1 McCullough, SW cor. SE, Section 36-21-12. Double A Oil Co.'s No. 1, SW cor. SE SW, Section 20-18-13, is dry at 2,320 feet. Watchorn Oil & Gas Co.'s No. 1, NE cor. SW, Section 21-18-13, is dry and abandoned at 2,500 feet.

Good Well in Marion

Sheedy and others' No. 1, SE cor. SW, Section 13-21-4, Marion County, had sand at 2,385-89 feet and made 522 bbls. on the swab.

In Osborne County Kreuger and others are drilling at 750 feet in No. 1, SW cor. NE, Section 19-8-13w.

In Reno County, Hartman & Slear are building a rig for No. 1 Smith, C SW, Section 24-24-8w.

In Kingman County, T. B. Slick's No. 1, NW cor. SW, Section 15-27-7w, is dry at 4,215 feet.

In Barber County, Rollins and others' No. 1, NE cor. NW NE, Section 27-30-14w, is shut down at 300 feet.

In Cowley County, Lewis Oil Co. has spudded No. 1 Charles, NW cor. NW, Section 30-32-5.

SUIT FOR $97,600,000 ON VERA CRUZ LEASE

NEW YORK, June 26.—Papers in a suit to recover $97,600,000 damages from the Pan-American Petroleum and Transport Co. have been filed in the Federal Court in Brooklyn following the removal of the case from the State Supreme Court in Richmond, Va.

The suit is brought by the Merinos Viesca y Compania as assignee of the rights of Geronimo Merinos, a Mexican, and son and heir of the late Senora Encarnacion Cruz. The Merinos company, a New York corporation, contends that an agent for Senora Cruz exceeded his power of attorney when he leased land for her in the State of Vera Cruz, Mexico, to the Pan-American company.

The complaint declares that already 122,000,000 bbls. of oil from Lot 165, the disputed property in the municipality of San Antonio Chinampa, have been removed.

Senora Cruz died December 2, 1919, and her son Geronimo on November 11, 1922, assigned all his rights to the Merinos Viesca y Compania, which now sues for the full value of the subsoil products removed.

MARLAND'S TRAVELING CLINIC

Appointment, effective July 1, of Dr. Allen C. Kramer as assistant, has been announced by Dr. Thomas McElroy, director of the clinic of the Marland Refining Co. of Ponca City, Okla.

Doctor Kramer will be in charge of a traveling clinic covering Oklahoma, Kansas, Missouri, Illinois, Indiana, Kentucky, Iowa, Nebraska, Colorado and Texas, the territory of the retail marketing department of the Marland Refining Co.

Also connected with the medical work being done by the Marland Co. is the establishment of a 20-bed hospital at Panhandle for use of Marland employes. Dr. L. M. Draper will be in charge of this hospital.

WYOMING LEASE BILL

WASHINGTON, D. C., June 28.—The Senate Committee of Public Lands has favorably reported without amendment House Bill 10,980 to authorize an oil and gas lease to Mark D. Woolery, Dudley Sherman Wageley, Dorsey N. Kerr, Andrew J. Denny, Mabel G. Duncan, and Michael L. Lundy for the NW SE, Section 34-20n-75w, sixth principal meridian, Wyoming. The application had been rejected in 1925, by the General Land Office for the reason that the land was embraced in coal land withdrawal. On February 21, 1918, the locators leased the land to the Ohio Oil Co., which drilled two producing wells on the claim. The value of the improvements by the Ohio Oil Co., including the cost of drilling, was approximately $200,000. To dispose of the land at public auction would place the parties in interest in a position to lose the improvements.

DRILLING MACHINERY RATE

AUSTIN, Tex., June 28.—Well-drilling machinery rate description was amended by the Railroad Commission to read as follows:

Well-boring or well-drilling outfits, consisting of well-boring or well-drilling machinery, draw works and parts, or rig irons, with equipment of boilers, engines, crown blocks, derricks, ladders, mud-mixers, light plants, traveling blocks, "C" hooks and double swivel hooks, drill collars, pumps or well casing and with or without necessary equipment of parts, or tools, carloads, minimum weight 24,000 pounds, subject to rule 34 of current western classification.

Cut Your Well Expense with

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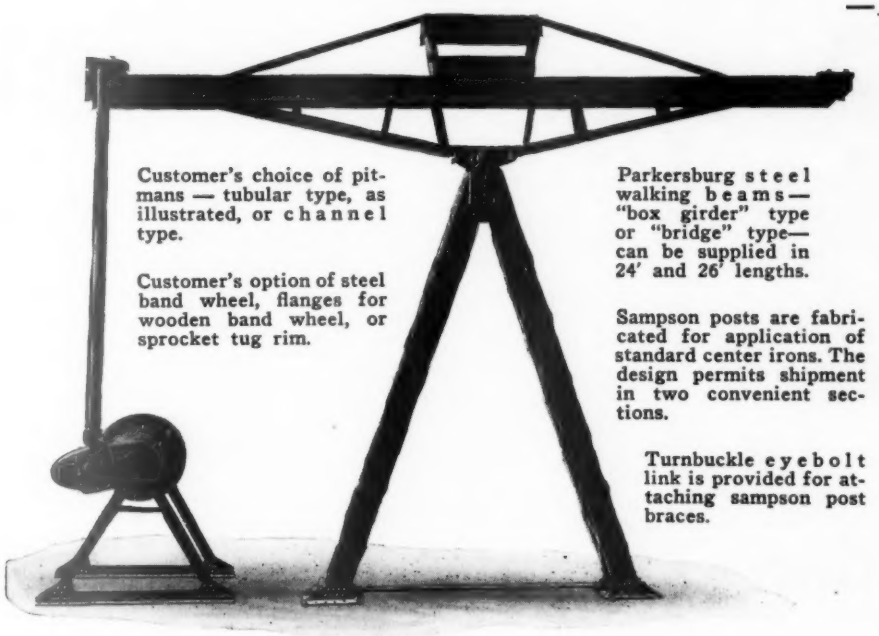

Customer's choice of pitmans — tubular type, as illustrated, or channel type.
Customer's option of steel band wheel, flanges for wooden band wheel, or sprocket tug rim.
Parkersburg steel walking beams — "box girder" type or "bridge" type — can be supplied in 24' and 26' lengths.
Sampson posts are fabricated for application of standard center irons. The design permits shipment in two convenient sections.
Turnbuckle eyebolt link is provided for attaching sampson post braces.

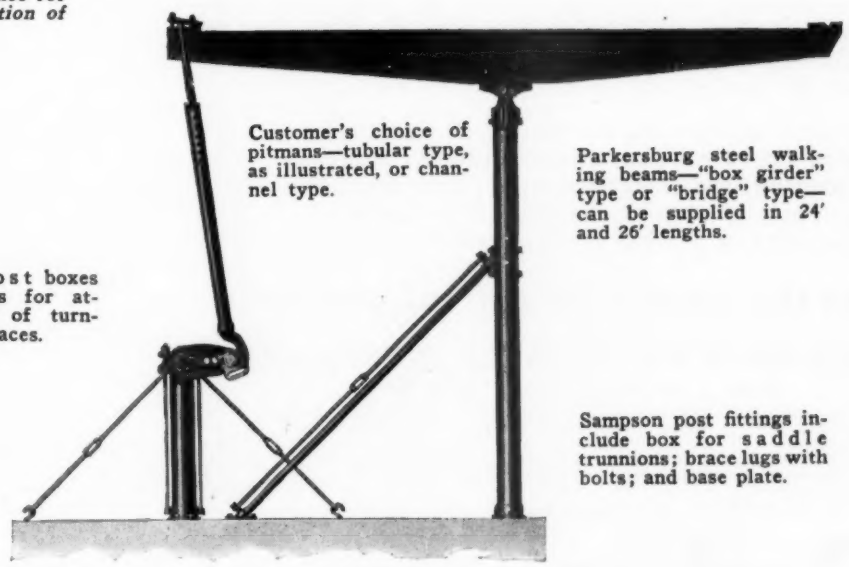
Most operators have indicated a preference for use of concrete foundations for installation of these units.

Parkersburg "A-frame" type steel jack posts and sampson posts can be supplied complete with crank and shaft, walking beam, pitman, and other parts to complete drilling or pumping units. Or the posts only can be supplied for installation with standard rig parts.

Choice of crank and shaft, steel band wheel, (or band wheel flanges), pitman, walking beam, etc., is optional.

Parkersburg foundry irons and forgings are supplied to build pumping rigs using standard 10″ steel pipe for sampson post and jack posts, and standard 3″ steel pipe for braces for back jack post and sampson post.

Crank and shaft, pitman, walking beam, and other parts to complete the unit are optional with the customer.


Customer's choice of pitmans—tubular type, as illustrated, or channel type.
Jack post boxes have lugs for attachment of turnbuckle braces.
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JUDGE SPEER'S FAR-REACHING DECISION IN SIGLER OIL CASE

The far-reaching decision of the Supreme Court of Texas in the suit of the W. T. Waggoner Estate against the Sigler Oil Co., reported on Page 29 of The Oil and Gas Journal of June 24, is so important to lease owners all over the vast possible oil region of Texas that the full decision of the court, handed down by Judge Ocie Speer, is here given. Every owner of an oil and gas lease in the State of Texas, where many leaseholds are in large parcels of land, is vitally interested in this decision, the result of which will be that lease forms in that State will have to be revised. Judge Speer's decision and comments on the case follow:

No. 654-4523
COMMISSION OF APPEALS
Section "B."

W. T. Waggoner, Estate, Plaintiff in Error, vs. Sigler Oil Co., Defendant in Error.

From Wilbarger County, Seventh District.

Sigler Oil Co. is the owner by assignment of 3,000 acres out of that certain 85,000 acres described in a lease agreement between Electra W. Wharton and others and W. G. Burton. (Here follows a copy of the original lease from Wharton and others to Burton of 85,000 acres of land lying in Wilbarger and Baylor Counties, and which follows the usual Texas lease form with the exception that it provides that each producing well shall hold 2,000 acres in a square, said well to be the center and said 2,000 acres shall be released as to further annual rental.)

Story of the Suit

The W. T. Waggoner Estate is the owner of the land and of the rights in the lease of the original lessor, W. T. Waggoner Estate sued the Sigler Oil Co. to cancel the lease and to remove cloud from title to the land created by the registration of the lease on the ground of abandonment, and in the alternative for the reason the oil company had failed and refused to carry out the purpose of the lease or to carry on the enterprise which the lease created, or to use the property for the production of oil and the development of the land for oil as was the purpose of the lease. The plaintiff as a further alternative sought a decree of specific performance. The case was tried before a jury on special issues, which, together with the answers thereto, are as follows:

"1. Did the defendant, Sigler Oil Co., and its predecessors in title prior to January 29, 1924, use reasonable diligence in developing for oil the lands described in the lease in question?

"Answer: No.

"2. Did the defendants, Sigler Oil Co., prior to January 29, 1924, breach the duty of carrying out the essential purposes of the lease in question?

"Answer: Yes.

"3. Did the defendant, Sigler Oil Co., prior to January 29, 1924, abandon the duty of carrying out the essential purposes of the lease in question?

"Answer: No."

Upon these answers the trial court refused to enter a judgment of cancellation, but did render judgment for a specific performance on the part of the Sigler Oil Co., outlining a plan for the drilling of eight wells upon undeveloped portion of the lease held by the oil company. It appears from a bill of exceptions approved by the court that it refused the motion of plaintiff for judgment for cancellation of the lease upon the view "that the finding of the jury of a failure to reasonably develop, there being no finding in favor of the plaintiff upon the issue of abandonment, was not sufficient under the law to justify a cancellation of the lease." Both parties appealed and the Court of Civil Appeals reversed the judgment and remanded the case. 276 S. W. 936.

The important question arises upon plaintiff in error's first assignment to the effect that defendant in error's title being only a determinable fee under the grant from Wharton and others, and the jury having found that defendant in error had not used reasonable diligence in developing for oil the lands described in the lease, and had breached the duty of carrying out the essential purposes of the lease, its title had ended and the lease should have been cancelled as a cloud upon the title. Defendant in error has tersely stated the respective contentions of the parties as follows:

"It affirmatively appears that the sole question presented by the appeal of the W. T. Waggoner Estate is whether or not in Texas a lease will be cancelled or forfeited for failure on the part of the lessee to comply with the implied covenant of reasonable development. It is the contention of the Waggoner Estate that the Supreme Court of this State now so holds; on the contrary, it is contention of the defendant in error that the Supreme Court of this State does not so hold."

Hold Defendant in Error

Upon this point the trial court and the Court of Civil Appeals have held with defendant in error. Let us examine the Supreme Court authorities.

First, the case of Grubb vs. McAfee, 109 Tex., 535, 212 S. W. 464, is most relied upon by defendant in error, and is made the basis for the decision in large part by the Court of Civil Appeals. That was a suit to cancel an oil lease for abandonment by the lessee. The lease required the lessee to begin the drilling of a well within 30 days from the date thereof and to prosecute the work with diligence to a depth of 300 feet unless oil should be found in paying quantities at a less depth. The conveyance was for the term of 20 years from date and as long thereafter as petroleum, oil, gas, coal or minerals were found in paying quantities. It stipulated for one-tenth of all the oil produced and saved from the land to be delivered free of cost in tanks or pipelines by the lessee. The well was drilled within the time stipulated and oil was found at the depth of about 250 feet, on which royalty was paid to the lessor for about 60 days, when the wells ceased to produce. Within the next ten months two wells were sunk by the lessee without finding oil, and thereupon he removed all machinery, equipment and supplies from the land and for nine years had conducted no prospecting or drilling or producing operations on the land. Upon the trial the lessee did not deny that he intended to abandon the contract when he ceased to drill on the land, and indicated no desire of purpose to resume operations. The Supreme Court said:

Reasonable Diligence

"We approve the conclusion of the Commission that the law implied the obligation from defendant in error to exercise reasonable diligence to continue drilling and mining operations on the land after oil was encountered in the first well, but we do not agree that the terms of the contract made this obligation a condition subsequent and authorized a forfeiture of the contract for noncompliance with the obligation. We think that the cancellation of the contract as adjudged by the trial court on the facts alleged and proved can be sustained only by reason of the abandonment of the contract by defendant in error.

"The contract specifies as the sole cause of forefeiture of this right a failure to drill the first well within the time or to the depth there specified, and the difficult question in this case is whether in the face of this express stipulation of the cause of forfeiture we should imply another based on the breach of an obligation not itself expressed in the contract.

"It is a recognized rule that additions ought not to be made to contracts by implication beyond that which is necessary. And we see no reason to doubt that full protection may be accorded the owner

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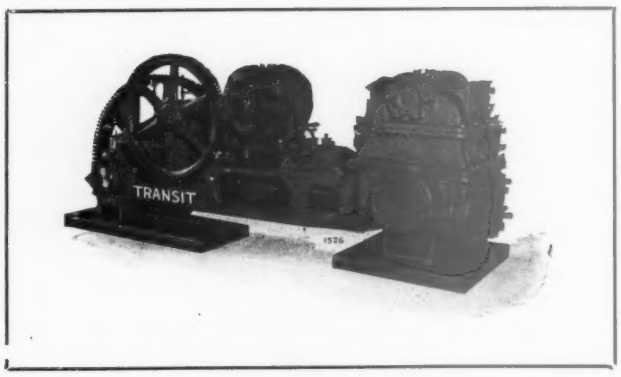

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with respect to the enforcement of the implied covenant of the lessee to use due diligence in mineral development, without making a breach of the covenant a ground of forfeiture. In the first place, the party obligated to drill cannot abandon his contract without subjecting same to cancellation on that ground.

"There can be no doubt that defendant in error's rights under his contract were of such a nature as to be lost by abandonment.

"——— we have no doubt of the correctness of the judgment of the district Court in ordering the cancellation of the contract here involved on the ground of abandonment."

On June 30, 1923, a group of cases was decided by the Supreme Court, Justice Greenwood who had written the opinion in the Grubb-McAfee case, also writing the opinion in each of these cases, each of which is directly pertinent to the question before us. The lease instruments involved in these cases were essentially the same as the one here being considered. The Texas Company vs. Davis, 113 Tex., 321, 254, S. W. 304, was an action to recover the oil, gas and other minerals with appurtenant service rights in a certain described tract of land in Brazoria County. It involved the construction of an oil and gas lease upon the usual form and upon the usual royalties.

Judge Greenwood said:

"The right of recovery by defendants in error is predicated on the view, adopted by a majority of the Court of Civil Appeals, that Underwood and his assigns acquired an absolute fee-simple title to nine-tenths of the oil, gas and other minerals in place, upon condition subsequent that specified operations for drilling a well be performed, and that, after compliance with such condition subsequent, neither Arnold and wife nor their assigns could be reinvested with title to the oil, gas and other minerals, without a written conveyance, in the absence of limitation or estoppel.

"Careful consideration leads us to disapprove the conclusion of the Court of Civil Appeals as to the legal effect of the grant to Underwood. The grant was of minerals in place with appurtenant rights. The vital consideration for the grant was royalties on mineral production. Arnold and wife could have made a deed of gift to their mineral estate. They could have conveyed the minerals for a nominal or formal consideration. Instead, they were careful to have the writing provide, in addition to the consideration of $1, a consideration of possibly large value, realizable only through exploration and production. The grant was plainly for the purpose of securing a test of the land, which, if successful, was to result in the mining and marketing of valuable minerals, for the joint profit of grantors and grantee, their heirs or assigns. Testing was merely preliminary to production, which was the real aim and end of all parties. As if to remove doubt as to the true purpose of the grant, it was expressly declared: First, that it was the intent of all parties that the grant should operate as a conveyance for the purpose mentioned; and, second, that the parties understood such intent * * *. The grant was not of an absolute fee. The estate conveyed, on condition subsequent, was a determinable fee, inasmuch as the land might always produce minerals in paying quantities, causing the grant to endure forever, and inasmuch as the intent is unquestionable that the land was to be used for no other purpose than to drill for and produce the minerals, and that the grant was to be enjoyed only while the work of mineral exploration and production was carried on."

Case of Grubb-McAfee

In the course of the opinion Justice Greenwood, remarking on the case of Grubb-McAfee, said:

"This court declined to hold that the implied obligation to continue the exploration for and production of minerals, under a lease similar to that to Underwood, was a condition subsequent, for breach of which the lease might be forfeited. We see no necessity for changing the view on that point expressed in Grubb vs. McAfee. However, there are expressions in that opinion as to the nature of the lessee's title and as to the plaintiff's suit being maintainable only on proof of abandonment, which are not consistent with our conclusions in this case and in the case of Stephens County vs. Mid-Kansas Oil & Gas Co., supra. Much the same practical results are obtained whether the mineral estate conveyed is regarded as determinable or is regarded as held on condition subsequent, whether there has been a failure of the lessee to perform the obligations express or implied which are essential to the accomplishment of the purpose of the grant. Our object is to announce a rule which is truly consonant with the real intent of the contracting parties."

In Thomason vs. Ham, 113 Tex., 239, 254 S. W., 316, there is this:

"The grants are of minerals in place but for the single purpose 'of drilling, mining and operating for minerals.' Each grant, for the purposes stated, is to endure for 20 years from the discovery of minerals and as much longer as the same can be produced in paying quantities. Moreover, each grant appears to expressly authorize the exercise of the right to abandon the enterprise by providing that 'the second parties, their heirs and assigns may at any time hereafter surrender up this grant and be relieved from any part of the contract heretofore entered into that may at that time remain unfulfilled, then and from thereafter this grant shall be null and void and no longer binding on either party.' Such grants plainly cannot endure after their voluntary relinquishment by abandonment. Regardless of this express surrender clause, we held today that estates vesting under grants for the sole purpose of mineral development, made in view of promised royalties, were limited to the time the grantees and their assigns were pursuing the essential purposes and objects of the grant, and that abandonment of such contracts and of the mineral operations thereby required necessarily deprived the grantees therein and their assigns of any further claim to minerals or land. The principle is applicable and controlling in preventing Thomason or his assigns from having any title in or to the minerals or land in controversy, after abandonment of the mining operations."

Again, in Robinson vs. Jacos, 113 Tex., 321, 254 S. W. 209, Judge Greenwood said:

"Thomason granted nothing save for purposes of mineral exploration and production. He was careful to insert a stipulation in the writing he signed to the effect that such was the understanding of both parties. There was a possibility of endless mineral production, with profit, so that the grant might continue forever. The intent is as plain from all the terms of the instrument as if it had been expressly declared that the land was to be used for no other purpose than for mineral exploration, development and production, and that on termination of such use nothing should be held or owned under the grant. Hence the grant passed no absolute fee. It created a determinable fee, leaving a possibility of reverter to the grantor or his assigns. Abandonment of the enterprise, which it was the sole object and purpose of the grant to accomplish, would necessarily and the estate created by the grant * * *.

"The pleading and evidence raise the issue of termination of plaintiffs in error's title and rights, through cessation of use for the purpose of the grant, whether or not defendant in error should prevail on the issue of abandonment."

So in Munsey vs. Marnet, etc., Co., 113 Tex., 213, 254 S. W. 311:

"The wells expressly mentioned in both leases were sunk by the respective lessees within the times stipulated and produced oil in paying quantities.

"In 1913 this suit was instituted by plaintiffs in error, to cancel the instruments above set out, on the ground that the grantees and their assigns, including

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defendant in error, had abandoned their contracts and refused to perform their obligations to the grantors and their assigns, and had abandoned all operations for minerals * * *.

"In our opinion both contracts or grants passed title to corporeal property, not absolutely, but for the mining purposes only, and title of such nature as to be incapable of enduring after abandonment of the contracts or abandonment of operations for mineral discovery and production * * *.

"* * * viewing the two instruments from beginning to end, whatever estate or right was acquired under either of them terminated with the mining operations contracted for * * *.

"Expression may be found in the opinions of this court treating implied mining obligations in oil leases in conditions subsequent, such as Benavides vs. Hunt, 79, Tex., 594, 15 S. W. 396. And the court denied a writ or error in J. M. Guffey Petroleum Co. vs. Oliver (Tex. Civ. App.) 79 S. W. 884, where similar expressions were used. The the same effect are portions of the opinion in Fisher vs. Crescent Oil Co., supra, approved on the first appeal, in this case, 199 S. W. 687, but we find nothing from this court to give support to the theory that one can repudiate his drilling obligations and still hold the estate which is granted for the sole purpose of securing performance of such obligations. The doctrine seems to have scant support in the American decisions.

"Our discussion of the questions presented, in the above cited cases of Stephens County vs. Mid-Kansas Oil & Gas Co., The Texas Company vs. Davis and Robinson vs. Jacobs, makes it unnecessary to extend this opinion."

"Reasonable Development"

So that, from a consideration of the very full discussion of the principles involved in this group of cases by the Supreme Court, and of all that is said in all of the cases cited, we think the conclusion is inescapable that in a contract such as we have before us, the essential purposes of the lease are for reasonable development, and producing and marketing of the minerals in contemplation, and that there is necessarily implied a covenant by the lessee for reasonable diligence in thus developing the lands for oil. There can be no doubt that this interpretation of the contract is most truly consistent with the real intention of the contracting parties, and this is the supreme test of meaning as laid down by the learned associate justice in the above cases. The reasoning which is unanswerable is that the nature of the grant is not an absolute fee, but a determinable fee, which fee is ended when the lessee ceases to exercise reasonable diligence in the development of the land for minerals according to the terms of the lease. This is not, perhaps strictly speaking, a condition subsequent as a contract to drill, within a definite time or the like, but rather it is a limitation affecting the extent of the estate granted. But whether such duty of development be technically a condition subsequent or be essential to a determinable estate, is of little practical importance, since, as pointed out in The Texas Company vs. Davis case, supra, the same practical results are obtained in each case.

Abandonment of Contract

It cannot be denied that the undisputed facts in the Grubb-McAfee case showing a complete abandonment of the contract and all operations justified and even required the decree of cancellation under any view of the law, but the possible limitations suggested in that case that such a suit for cancellation was maintainable only on such proof of abandonment, has been practically corrected in the opinion by Justice Greenwood in The Texas Company vs. Davis, Supra. It must be borne in mind that by the term "abandonment" in this connection is not meant the relinquishment of title to real estate once fully vested. This would be an inaccurate use of the term. A vested title to real estate can only pass by deed, judgment or other means recognized by law. Abandonment as such, of title is not recognized in this State. What is meant is most fully explained in the group of cases we have been discussing. Abandonment in that connection pertains to the enterprise or business, upon the existence of which the continuance of title depends. There is an incident determining title, but not an act passing title. It is like an event terminating an estate. This inheres in the nature of the ordinary oil lease contract, which is in very truth a species of joint enterprise between the owner and lessee. No other interpretation so fairly represents the real intention of the parties as that of determinable fee, terminating upon breach of any material condition, express or implied, essential to the purposes of the contract.

The reasoning of the Supreme Court in the group of cases just discussed leaves no doubt; that that court recognizes a substantial distinction between a title upon condition subsequent and a determinable fee ending upon an event; that where the essential purpose of the grant is the development of the lease and the production of oil, the grant is of a determinable fee ending with the cessation of such reasonable development and production; that this determination of the estate is not upon any principle of abandonment of title acquired.

Terminate the Title

These cases abound with well considered expressions which show unmistakeably that a cessation of development, that is, a failure reasonable to prosecute such essential purpose of the contract with diligence, will terminate the title entirely, aside from any international abandonment of the contract in its entirety. Of course such abandonment would terminate the lease, as in the Grubb-McAfee case, but the estate may and will terminate short of such complete abandonment, of all rights under the contract. The lessee might, as here, lack diligence in the prosecution of the proper development of the lease, yet steadfastly refuse to abandon benefits already received and then being enjoyed. But he must be held to a weighing of those benefits in determining whether he will cease further developments of his lease. The bonus and rentals paid in this case, are large in the aggregate, but when it is remembered the transaction is large—85,000 acres having passed—the amounts are relatively small. The real consideration and the essential purpose of the contract being a reasonable development of the property for oil, a failure in which respect will terminate the estate, it necessarily follows that such failure may occur short of abandonment of the lease as the terms abandonment is technically understood.

We add this further word in emphasis of the controlling feature of these cases as is perfectly apparent from a consideration of the opinion reviewed. The action to cancel, so called, is not in reality the equitable action to forfeit for breach of covenant, either as to condition precedent or subsequent, and therefore to divest title for cause. It is in truth a proceeding to recover the land unaffected by the lease which has expired by its terms as interpreted. The case is maintained on the theory, not that the lease should be forfeited for cause, but that there is no further title—it has ended.

What we have said disposes of the case, yet there is presented in the petition for writ of error a question of practice of such importance that we deem it proper to decide it.

The Court of Civil Appeals held that there was no evidence to support the decree of specific performance rendered by the trial judge, and there being no assignment of error raising this question, that the same was fundamental error, for which it reversed the judgment of the District Court. This we think was error in the Court of Civil Appeals. The right of the Court of Civil Appeals to reverse the judgment of a District Court depends upon an error being assigned in the manner prescribed by law or the existence of an error apparent upon the fact of the record, commonly referred to as fundamental error. Robertson vs.

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Hughes, (Comm. App.) 231 S. W. 735. Unless error appears in one of these ways, that court has not power to reverse. An error which requires the Court of Civil Appeals to search the statement of facts is not that fundamental error which the court is required to examine. Ford & Demon vs. Flewellan (Comm. App.) 276 S. W. 903. If a court of Civil Appeals is not required to search the record in support of such a pretended error, it is because the same is not fundamental, and of course if it is not fundamental, the court has no right to consider it, however willing it may be to do so.

Upon a consideration of the cases above discussed, we recommend that the judgments of the Court of Civil Appeals and of the District Court be reversed and that judgment be here rendered in favor of plaintiff in error cancelling the lease in controversy, save and except ten acres, including the two producing wells of defendant in error, more particularly described and set out in the margin of this opinion. This reservation is recommended because of the express tender of plaintiff in error in the trial court, in recognition of possible equities of defendant in error in the two producing wells brought in on the lease.

(Signed) OCIE SPEER,
Judge.

MICHIGAN FIELDS

(Continued from Page 62)

way between, one on the Marshall farm, Section 16, 2 miles west of the discovery and along the State road, another along the Shattuck road, Section 10, over a mile northwest and still another on the E. Fisher farm, near the line of Sections 10 and 11 and over a mile to the northwest and northeast half a mile from the test drilling on the Fred Engle farm.

Oil men freely predict that if these tests maintain the unbroken record of successful wells in the Saginaw Field it will mean a most decided increase in interest and probably marked speeding up of operations.

Field Pickups

The Saginaw Prospecting Co. will move its rig from the Palvaz farm to a new location on the Hansen farm, on the Hermansau road. The same company has a rig in for a well on the John Bremer property on the Shattuck road.

The Sun Co. is having considerable trouble at its well on the John Schonteit farm, Section 11, Saginaw Township, and an offset to the south of its producer on the Weiss farm. The company has started three holes on this lease. In the first hole two strings of tools were lost and caused several weeks of fishing but had to move to another location a few feet away, the second and third holes being held up on account of injury in setting the drive pipe, supposed to be caused by the pipe striking boulders in some glacial drift formation. The second hole was abandoned, but efforts are being made to repair the injury to the third hole.

Up to the present the Saginaw Prospecting Co., the pioneer of the field, has shipped a total of 78 tank cars of oil or a total of more than 15,000 bbls. and about 3,500 bbls. have been shipped by the Sun Co. and Bliss Petroleum Co. The price paid for Saginaw crude at this time is $2.95 per barrel.

Late Leases Recorded

A. H. Russell, Tulsa, Okla., recorded two leases. One in Zilwaukee Township, of 37 acres and one of 40 acres in Carrollton Township.

Henry A. Martens of Wilmette, Ill., filed seven leases comprising 505 acres in Spaulding Township, while William C. Mertz recorded five leases on 150 acres in Swan Creek Township. A. H. Russell also filed leases on four lots, in the city limits in the McEwan Addition, near Bay and State Streets.

D. E. Hughes, trustee, filed two leases, one of 1½ acres in Saginaw Township, and one of 11 acres in Buena Vista Township.

The Ohio Oil Co. filed 22 leases covering 1,605 acres, in Bridgeport Township, while A. H. Russell recorded another lease on 40 acres in Saginaw Township.

CENTRAL WEST

(Continued from Page 62)

1,110 feet and drilled 50 feet in the sand. In Recovery Township, Sam W. Tate's No. 3 Rose Fecher farm, Section 24, pumped 2 bbls., sand at 1,140 feet and total depth 1,192 feet.

In Cynthian Township, Shelby County, Slagel & Johnston's second venture in the southeast corner of the Anthony Bornhorst farm, Section 21, was a dry hole at a total depth of 1,326 feet, or 46 feet in the sand.

In McDonel Township, Hardin County, the New York Coal Co.'s No. 2 on the Gilmore-Cockley farm, is showing for a 20-bbl. flush well. The Roundhead Oil & Gas Co.'s No. 7 Erwin Hites farm, same township, pumped 12 bbls. at 1,512 feet, or 50 feet in the Trenton.

In Patterson Township, Darke County, a wildcat drilled by Lee A. Watson in the northeast corner of the G. W. Tritshup farm, Section 28, shows a volume of 100,000 feet of gas at 45 feet in the sand and a total depth of 1,275 feet. In the same township, a test by the Pepperman Oil Co., on the John Pepperman farm, Section 8, and one-half mile east of the town of Osgood, showed a gas volume of 100,000 feet. Top of sand at 1,170 feet and gas at 37 feet in the sand. In Mississinewa Township, same county, J. G. Hoffman's No. 7 on the H. W. Long farm, Section 16, was dry at 1,250 feet, or 40 feet in the sand.

Central Ohio

In the Cleveland Field, in Strongville Township, Cuyahoga County, the East Ohio Gas Co.'s second well in the southeast corner of the Bert H. Adams farm, Lot 50, produced 150,000 feet of gas at 2,490 feet.

Indiana

One of the late important finds in the old Trenton Rock area of eastern Indiana was the completion by J. H. Harmon and others of a well on the Mary J. Niblick 242 acres, Section 5, Jefferson Township, Adams County. Sand was tapped at 1,087 feet and the well drilled 39 feet in, the last 10 feet of hole proved a crevice and it filled up at once to within 100 feet of the casinghead followed by a nice volume of gas. There was about 200 feet of salt water in the hole. The first day's gauge showed 250 bbls. of salt water. The following day the well pumped 15 bbls. of oil, next day's production amounted to 37 bbls., followed by the fourth day's pumping with 56 bbls., and since then has been producing under pump about 50 bbls. daily. Additional tankage is being constructed as all available storage is filled. A crevice well is seldom found but when one is struck, the owner can consider it a lucky strike, for they produce a large amount of crude. No. 6 well is being drilled on the same farm, and the same parties are working at a well on the William Smitley farm, Section 6, same township. One of the old wells on the Niblick farm, drilled 24 years ago was cleaned by the Harmon interests and is doing 8 bbls. daily. The drilling well on the Smitley farm is southwest of the Niblick lease and Jack McCray, one of the old-time drillers and contractors of Geneva, Ind., is doing the work.

In Blue Creek Township, Adams County, George S. Lacknett, of Pittsburgh, Pa., drilled in a test on the Joseph Sipe farm, mapped as the Tinkham 80 acres, Section 34, which produced 35 bbls. In Section 16, same township, Schulte, Haney and others' No. 4 Schulte farm, mapped as the G. Runyon farm, Section 16, pumped 2 bbls. This firm is drilling No. 5 on the same farm, and George S. Lacknett is drilling a second test on the Joseph Sipe Farm. Frank and Arn of Fort Wayne, are drilling a test on the Mrs. Dan Hawbacker farm, Section 17, Wabash Township, same county, about 2 miles southwest of Berne, along the Wabash River. In Monroe Township, same county, Anderson & Christensen have been delayed by a fishing job at

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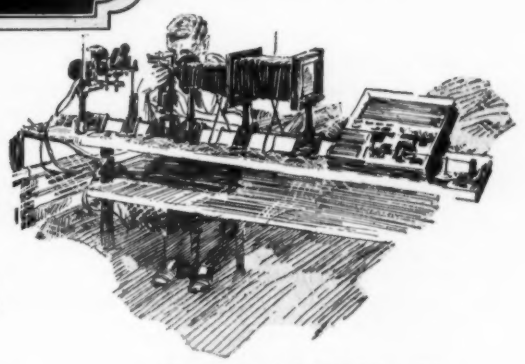

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3 feet in the Trenton Rock at their test on the Christ Stengel 90 acres, Section 30. Should this prove a producer will add a large acreage of good looking territory to the field.

J. W. O'Neil, prominent contractor and producer of New Middletown, Ohio, has secured a block of leases in Wabash Township, and expects to move in an outfit and start drilling. Oil men from all parts of the country are arriving at Berne, the town of the new field. Considering the nice showing of the new wells of Harmon & Watts and the old wells, the new wells recently brought in by Lacknett on the Johnson and Sipe farms, the well drilled by Schulte, Haney and others, the past history of the Berne Field, and that less than 10 per cent of the locations have been drilled up, it is safe to venture a guess that there will be close to 25 outfits running in the Berne Field before many weeks.

Another very important completion is that of the John Say Oil Co. in a test along the Jay-Wells County line, in Nottingham Township, Wells County, on the H. J. Heistand farm, rated at 50 bbls. In the same township, H. Sharpe abandoned No. 16 on the George Updegraft farm, Section 25 and north of Pennville. A test is being made by the Central West Oil & Gas Co. on the L. D. Lowe farm, Section 10, Bear Creek Township, Jay County, with a second test drilling.

In Delaware Township, Delaware County, A. M. Dearth, receiver, abandoned Nos. 1, 2, 3, 4 and 5 D. J. Ogle farm, and Nos. 1, 2, 3 and 4 William Hitchins farm, all in Section 18, while in Niles Township, same county, the same party abandoned No. 1 O. P. Bossman farm, Section 22.

The March Petroleum Co. is drilling No. 28 on the Calvin Perdue farm, Section 20, Salamonia Township, Huntington County.

In Sullivan County, Turman Township, the Ohio Oil Co.'s No. 25, on the M. J. Baird No. 2 farm, Section 1, produced 2,500,000 feet of gas at a total depth of 2,278 feet, indicating there are possibilities for oil at a great depth in this county.

Illinois

The leading completion in the Illinoiz Field for the week was made by the Mount Carmel Oil Co., in No. 7, on the F. M. Leake farm, Section 1, Wabash Township, Wabash County, in the Allendale area. This well is reported as good for 300 bbls. from a depth of 1,445 feet. This well makes five producers on the Leake farm, No. 7 being located across the "slab" from the Drennen school house and south of the Kogan lease, which has been so productive. This company has had five producers on this particular farm, without even a dry hole. The first three wells, in four months, paid all expense of operation, lease rentals, etc. In the same field, the Max Oil Co. made a 70-bbl. strike in its No. 7, 1,570 feet from the north line and 1,500 feet from the east line of the Holson-Dorney land, in the southwest quarter of Section 18. Top of sand at 1,438 feet and drilled 31 feet in the sand. Joe A. Young, Jr., and others did not do as well in a test 200 feet from the north line and 500 feet from the west line of the John Barney farm, Section 1, as the well proved a duster at a depth of 1,562 feet. This firm also reports a duster in the northwest corner of the Van Wright farm, in the southeast quarter of the southwest quarter of Section 13, at 1,540 feet.

Getting back to the early development of the Allendale Pool, especially the field to the east, north and southeast of Allendale, known as the "Stillwell Pool," the belief was that with the developments made to the southeast the field would extend across the Wabash River in that direction into Decker Township, Knox County, Indiana, and connect up with the Princeton Field of that State, but several wells were drilled along this proposed line without getting a commercial well. Since this happened ideas have changed and the trade is now looking for the field to run in a northeast and southwest direction, owing to the fact that opening of the Bass Pool several miles southwest of Allendale and southeast of Friendsville, in Friendsville Township, naturally attracted attention to the southwest of Allendale.

Fair Showing

A couple of miles farther to the southwest, a fair showing of oil was encountered at a test on the Liddle farm, Section 36, Friendsville Township. Leasers have been active in securing acreage to the southwest covering an area clear across Wabash County, thence into the southeastern portion of Edwards, and across the line into White County, where the State Geological Survey found a favorable area for prospecting for oil. This is west and southwest of the town of Grayville. Some of the area is now being tested by the Grayville Oil Syndicate, about 2 miles northwest of Grayville, on the John M. Helm farm, Section 18-2s-14w, and which at last report had reached a depth of 900 feet, the formations running regular and the prospects for a pay well rather flattering. The 12-inch casing has been run and the hole is in fine shape and good progress is being made, so it would be surprising to see another interesting pool developed.

Between the Helm farm test and the Bass and Allendale pools, a very important test is also under way, on the P. R. Fisher farm, three-quarters of a mile southeast of the town of Bellmont, in the east half of the east half of Section 6, Bellmont Township, 8 miles north and 4 miles east of Grayville. The Fisher test is being made by Bell Brothers, of Robinson, Ill., and L. R. Henley, of Vincennes, Ind. It will be remembered by those familiar with the territory west of Grayville that a couple of test wells were drilled about a mile east of the Little Wabash River, near the northwest corner of Gray Township, White County. One well was near the NE cor. SW NE, Section 22, Gray Township, and the other was near the NE cor. NW, same section, both having a fair showing of oil. The well in the northeast quarter was on the W. H. Kershaw farm, and would possibly have made a commercial well, if taken care of, while the other was on the Walter L. Curtis farm, and made a nice gas showing, both wells being less than one-half mile from the White and Edwards County line. These two wells are close up to the area picked for favorable prospecting. Taking the area from Grayville north to the town of Browns, a distance of nearly 9 miles, most every lease has been taken up for development work in the southeastern portion of Edwards County, the northeast corner of White County and the southwestern point of Wabash County.

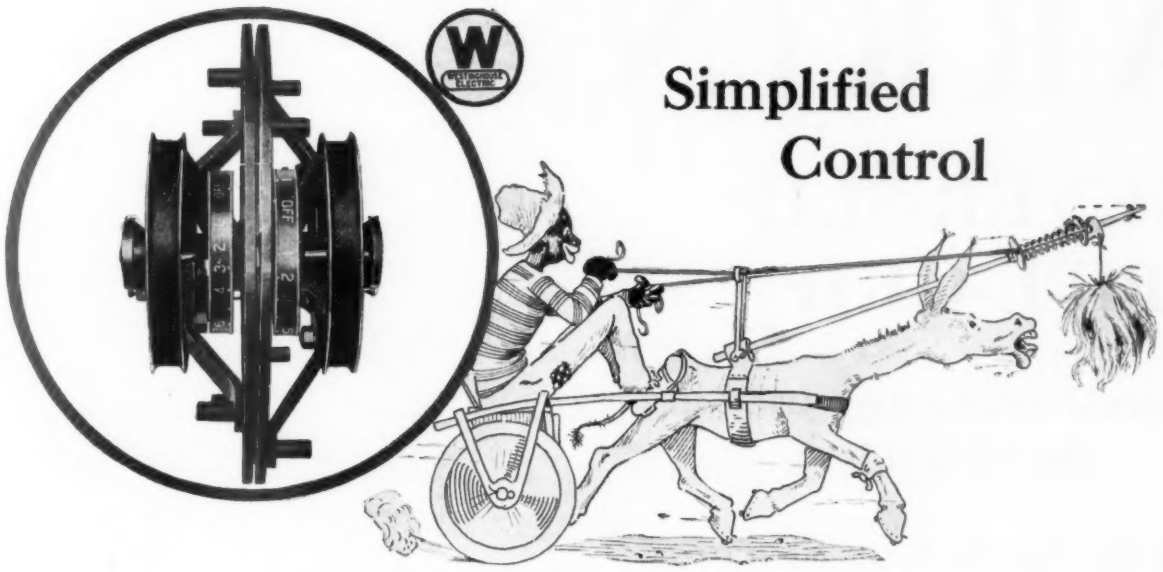
There have only been two wells drilled in the northern part of White County, the two wells mentioned and it was this favorable showing that caused the first leasing of acreage in Gray and Phillips Townships, White County, which was done by Edward Craig, Albion oil man, who recently secured a block of acreage about 2 miles northeast of the drilling well on the Helm farm, in French Creek precinct, Edwards County, between the drilling well on the Helm farm and the one on the Fisher farm near Bellmont, in Wabash County.

Marion County

In Centralia Township, Marion County, Gorman-Huddleston Oil Co.'s well on the southeast corner of the Cooksey-Mardina lease, Section 30, is dry. The Ohio Oil Co. is drilling two wells on the Homer Adams farm, in Section 3, and the James Oil Co. is still drilling at No. 4 Fannie McIntosh farm, Section 4, same township.

In Bridgeport Township, Lawrence County, the Big Four Oil & Gas Co.'s No. 1, in the northeast corner of the Ellen Lutz farm, in the NE NE, Section 20, pumped 20 bbls. from a depth of 1,380 feet. Hartman Brothers are drilling a wildcat on the A. J. Vaught farm, Section 3, Russell Township, same county.

In Parker Township, Clark County, the Ohio Oil Co.'s No. 117, in the northwest corner of the N. and K. Young farm, at Oil Fields, Section 17, produced 12 bbls. the first 24 hours, and 15 bbls.



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In the northeast corner of Union Township, Cumberland County, northwest of Casey and north of the one-time famous Siggins Pool, Campbell, Peck and others brought in their third well, 900 feet from the south line and 200 feet from the west line of the J. G. Paden farm, Section 1, for a 5-bbl. pumper, at 468 feet.

In Oblong Township, Crawford County, Brenneman & McDonnell's well, 800 feet from the south line and 1,000 feet from the west line of the Frank Coudrey farm, in the southwest quarter of Section 7, proved a duster.

Central Ohio

With close to 30 rigs and drilling wells under way and new locations for wells made daily Guernsey County is far in the lead of any gas-producing county in the Central Ohio Field. The finding of gas in large volume in the Niagara limestone within this county has brought practically all the leading gas companies to Cambridge. Development work is the largest in Adams Township, but has spread to Cambridge, Wheeling and Westland Townships.

The bringing in of a gas well with a volume of 12,499,000 feet by the Ohio Oil Co. in a test on the T. B. Speer farm, Section 22, Adams Township, brings the county to the front as a gas-producing area.

Among the leading concerns doing development work in Guernsey County are the Ohio Oil Co., Ohio Fuel Gas Co., Ohio Fuel Supply Co., Logan Gas Co., Big Lime Oil Co., Detroit-Edison Co., T. A. Matthews and others, Wittmer property, trustee; Leonard Oil & Gas Co., Cambridge Gas Co., Cambridge Glass Co., Stoltz & Co., and others.

In Adams Township the Big Lime Oil Co.'s second well on the William Knight farm, Section 21, is reported at 5,000,000 feet. This company is now drilling a test on the Martin L. Medley farm. The Ohio Fuel Gas Co. struck a well reported at 3,500,000 feet in a test on the W. L. Ford farm, Section 22.

In Cambridge Township, the Wittmer property trustee's No. 1 on the R. A. McBride farm, Section 5, produced 900,000 feet. The Ohio Fuel Gas Co 's No. 1 Albert Woodburn farm, Section 6, rated at 970,000 feet, and T. A. Matthews and others' No. 1 Marshall A. Gibson farm, Section 14, gauged 1,500,000 feet. In Westland Township, the Ohio Fuel Gas Co.'s test on the J. C. Arthur farm gauged 1,855,000 feet.

In Westland Township, Guernsey County, Stoltz and others are drilling No. 1 on the H. W. Fulton farm, and the Leonard Oil & Gas Co. is starting a test on the T. A. White farm. In Cambridge Township the Cambridge Glass Co. is starting a well on the Sarah Ford farm, and the Ohio Fuel Gas Co. is doing the same on the H. F. LaPage farm. T. A. Matthews and others are arranging to start a second well on the W. G. Morrison farm.

In Adams Township the Ohio Oil Co. is rigging up at a second test on the T. E. Speer farm. The same company is drilling at 2,200 feet on the James Mercer farm and down 800 feet on the Maud Oliver farm. The Logan Gas Co. has the rig completed for a test on the Howard Becks farm and drilling at 1,700 feet on the Seward R. Miller farm. The Big Lime Oil Co. is drilling at 400 feet on the Martin L. Medley farm. In Cambridge Township, T. A. Matthews & Co. have completed the rig up for a second test on the W. G. Morrison farm. The Cambridge Glass Co. has rig timbers at a location on the Sarah Fordam farm.

Ohio Fuel Gas Activities

The Ohio Fuel Gas Co. is very active in Adams Township. This company has the rig completed for a test on the Annie B. Girles farm and locations made for tests on the George Bell and Riley Moore farms. The test on the Lola Shriver farm is drilling at 4,639 feet. The test on the W. L. Ford farm is down 1,400 feet. The same company's test on the Harvey Steel and G. Forney farms are drilling at 1,300 and 1,600 feet, respectively. A location has been made on the Alice B. Mahaffey farm and the rig completed on the John W. Williams farm. The rig for a second test on the same farm is building. Locations were also made on the Wilmer O. Oliver farm, the O. C. Ford and the W. Nice farms, and the Joseph D. Taylor farm. The Ohio Fuel Supply Co. has a rig completed on the Cliff McFarland farm, and is rigging up on the T. A. Rankin farm.

Cuyahoga County

Hulse & Kuntdz drilled in a duster at their test in the northeast corner of the J. P. Deubel 10 acres, Lot 27, Dover Township, Cuyahoga County. Same firm is drilling a test 50 feet from the north line and 1,000 feet from the west line of the James Jenkins 30 acres, Lot 38.

Arthur and Simpson's test, 175 feet from the north line and 845 feet from the west line of the C. and C. M. Miller 27 acres, Lot 28, makes a nice gas well after given a shot. This firm's test, 200 feet from the north line and 1,340 feet from the west line of the W. Glasgow 30 acres, same section, is an exceptionally good gasser after being shot. Seven other wells in this township are nearing the pay sand.

Week's Work

During the week a total of nearly 30 wells were reported from the Central Ohio Field proper and in the offside area. There were 15 new locations staked out for wells and 10 new wells started spudding, which means that from now on until the winter season starts in there will be a lot of work accomplished.

A wildcat well drilled by the Mansfield Oil & Gas Co., 685 feet from the north line and 90 feet from the east line of the Emil Schausee 60 acres, Section 19, Madison Township, Richland County, failed to find any pay sand in the lime formation and is reported a dry hole.

In Jefferson Township, Knox County, the Ohio Fuel Gas Co.'s test, 1,000 feet from the north line and 300 feet from the east line of the J. Rowland 40 acres, Section 4, was drilled in and given a shot, resulting in an average gas producer. In Brown Township, same county, the East Ohio Gas Co.'s No. 11 well, in the northeast corner of the O. J. Beck 100 acres, Section 31, was a duster. The Upham Gas Co. is drilling deeper its No. 1 on the J. J. and S. M. Hair 29 acres, Section 4.

In Ashland County, Orange Township, the Logan Gas Co. has a very nice gas well in a test 1,100 feet from the north line and 600 feet from the west line of the William H. Brandt 252 acres, Section 2. The gas was found in the Newburg sand. Another good gasser was drilled by this company in No. 3 well, 300 feet from the north line and 625 feet from the east line of the H. B. Wertman 127 acres, Section 3. Same company made a location for a test near the southwest corner of the Mrs. Jennie Murray 80 acres, Section 5.

In Sullivan Township, Ashland County, the Klise-Eckstein-McCann Co.'s second test, in the southwest corner of the J. A. Spencer 34 acres, Lot 80, found 12 feet of gas sand and estimated at around 2,500,000 feet. The Logan Gas Co. has made a location for a test near the northeast corner of the Hattie Tedrow 72 acres, Lot 98, and the Ohio Fuel Gas Co. staked a location for a test in the northwest corner of the D. E. Spencer 100 acres, Lot 83. Same company made a location for a test in the northeast corner of the Mary Krumpt 80 acres, Section 24, Hanover Township, same county, while the Logan Gas Co. made a location for a second test near the northwest corner of the Frank Firestone 80 acres, Section 27, same township.

Medina County

Geisinger and others are starting a test in the northwest corner of the George Kennedy 50 acres, Lot 55, Litchfield Township, Medina County.

In Lorain County, Columbia Township, the Chemical Oil & Gas Co. is drilling a test in the northeast corner of the Rose Adams 6 acres, Lot 30. The Ohio Fuel Gas Co. is drilling a test near the northeast corner of the Robert Squires 85 acres, Lot 14, and the Logan Gas Co. set the stake for a second test 460 feet

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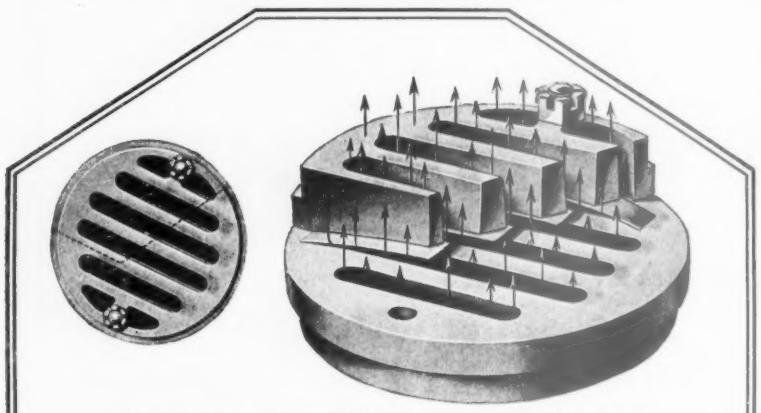

Cut-away view of FEATHER Valve showing principle of operation.

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north of the highway and 660 feet west of the highway on the William Rundle 20 acres, Lot 74.

A dry hole was drilled by J. R. Mays and others in No. 3, in the southeast corner of the Mary Giffin 80 acres, Section 11, Cannan Township, Wayne County. In Congress Township, the Arco Oil Co. has a light gas well at No. 3, in the southwest corner of the C. Spreng 135 acres, Section 25. In the same county, Union Township, the Logan Gas Co. is starting a test 800 feet north of the center line of the section and 720 feet from the west line of the M. Lautenschlager 80 acres, Section 22. In Chippewa Township, Westheffer & Winger are drilling a test in the southwest corner of the A. Zollinger 8 acres, Section 29.

In Paint Township, Holmes County, the Ohio Fuel Gas Co. made a location for a test 1,000 feet from the north line and 660 feet from the west line of the S. J. Miller 82 acres, Lot 32. In Prairie Township, the Pure Oil Co. is drilling No. 3 in the northwest corner of the Lee Durbin 30 acres, Section 17. In Hardy Township, the Empire Gas & Fuel Co. made a location for a test in the northwest corner of the Mary A. Findlay 79 acres, Lot 39, and for No. 3 in southwest corner of the Jessie P. Close 75 acres, Lot 9. In Kilbuck Township, the Ohio Oil Co.'s No. 2 well, near the southwest corner of the Rachael Mohr 74 acres, Lot 19, is a dry hole.

In Athens County, Carthage Township, E. A. McSweeney and others' test in the northwest corner of the Marguerite Lowan 140 acres. Section 6, is a nice gas well in the Big Injun sand. The Logan Gas Co is drilling a second test near the southwest corner of the S. A. Wilson 180 acres, which is a portion of this farm which contains 1,050 acres, in Section 35, and made a location for a second test on the J. W. Barnhill 15 acres in the northwest quarter of Section 25 and 1,000 feet west of No. 1 well and 450 feet from the north line of the farm.

The Logan Gas Co. drilled in a light gas well at a test 170 feet from the north line and 770 feet from the west line of the C. L. Shrimplin 30 acres, Lot 12, Newcastle Township, Coshocton County, and is drilling a test in the northwest corner of the William Johnson 38 acres, Lot 13, same township.

Offside Developments

The Pure Oil Co. is starting a test in the northeast corner of the Alfred Mizer 162-acre tract, but located on 82 acres of the farm, in Section 9, Jackson Township, Knox County.

The Logan Gas made a location for a test in the southeast corner of the W. S. and Sarah Cooper 242 acres, Section 2, Tiverton Township, Coshocton County.

The Ohio Fuel Supply Co.'s No. 7 on the Charles E. Trimmer, Section 36, Coal Township, Perry County, is estimated at 25 bbls., while the Chartier Oil Co 's No. 198 on the Hocking Product Co.'s land, same township, is estimated good for 25 bbls.

The Red Top Oil Co.'s No. 8 on the Eli Chute, Section 4, Green Township, Hocking County, estimated at 20 bbls. The Pierpoint Oil & Gas Co.'s No. 4 O. F. Pierpoint farm, Section 25, Washington Township, same county, is showing for 20 bbls., while Bell & Scholl's No. 2 Emily Thrush farm, Section 14, same township, is estimated at 50 bbls., from the Clinton formation.

In Washington County, Decatur Township, the J. C. Dinsmoor estate's No. 3 on the Hezekiah Male farm, Section 35, Decatur Township, is reported good for 200,000 feet in the Squaw sand. The Muskingum Gas Co. struck a 300,000-foot gas well at No. 1 on the L. C. Martin farm, Fractional Section 1029, Barlow Township. In Fractional Section 689, same township, Goddard and others' No. 1 Mary Drain farm, estimated at 200,000 feet of gas in the Maxon sand.

KENTUCKY-TENNESSEE

(Continued from Page 66)

ago that Louisiana parties contemplated the laying of a line from the Hopewell Pool to a point where it could connect with the big line of the Cumberland Pipe Line and at the same time prospects were very good for the construction of a line from the Paragon Development Co.'s line which runs to the Kettle Creek area, as members of this company looked over the territory thoroughly, but no decision has been forthcoming. Barren County and the Owensboro District, of the western division are keeping up their development work with excellent results. Warren and Allen Counties are still showing much pep in getting work started. In the eastern division just the usual amount of work is going on and but few wells are reported from that area of the State.

No reports have been made from the wildcat well drilling by Irwin & Anschutz on the Ben Russell farm, near Dunville, in Casey County. This well is reported to have had a fair showing at 590 feet, but since then information has been meager. Col. Less Combest has made a location for a test on the T. B. Hammonde farm, near Avon, in Casey County, with the expectations of soon starting operations.

The slowness in starting operations is by no means due to the price of crude at the wells, for the price is as good as can be expected at this time. The eastern division of the State goes on eastern prices while the western division is posted more on crude prices in the Mid-Continent fields.

Eastern Division

There is a scarcity of completions from the eastern division for the week although there is quite a number of wells due to come in in several of the counties. A nice gas well is reported completed in District 21 of the Beaver Creek Field in Floyd-Knott Counties by the Eastern Carbon Black Co. on the Turner farm. These wells show a good volume of gas and upon this part of the State the users depend for their supply as far west as Louisville.

In District 22 of the North Weir Field of Lawrence-Johnson Counties, Garrison & Townsend are reported to have a well good for 8 bbls. at No. 9 on the L. T. Sparks farm and Hare and Son one at 6 bbls. on the J. D. Bond farm. In District 22-A, same field, Skaggs, Miller and others are reported have a 7-bbl. pumper in No. 1 on the C. K. Osborne lease.

The Swiss Oil Corp., the most active developer in the eastern section of the State, reports no completions for the past several days.

Western Division

More development is noticeable in the western part of Kentucky than in the eastern which is something out of the ordinary, but this is due to the heavy work being done in the Owensboro District and in the Glasgow Field of Barren County.

Cumberland-Monroe Counties

The sensational strike made by Baird & Hickman in their test on the F. Baker farm, in the Hopewell Pool of the Crocus Creek division of the Cumberland County Field and near the Adair County line, is the feature of the week. This well is about 1,000 feet from the big gusher recently drilled on the Grider farm that caught fire, and the fact that the Baker well is credited with a flush of 750 bbls. means that there must be a reservoir of oil in the immediate vicinity. This well was drilled to a depth of 150 feet below the Pencil Cave formation in what is said to be a new sand for the county and has been named the Hopewell sand.

In the same area Wood, Haslet, McLennon and others made a strike at No. 2 on the E. H. Brockman farm, which came in making 15 bbls. per hour from a pay at 300 feet. These two wells bring up a large flush production for the Hopewell Pool and numerous locations have been staked out for wells on adjoining leases and a rush of the drill is looked for as a large number of the operators are from the Louisiana fields and do business right off the reel. In the same field, Baird & Hickman's test on the Harden Hanley lease, on Sand Lick, did not make any showing in

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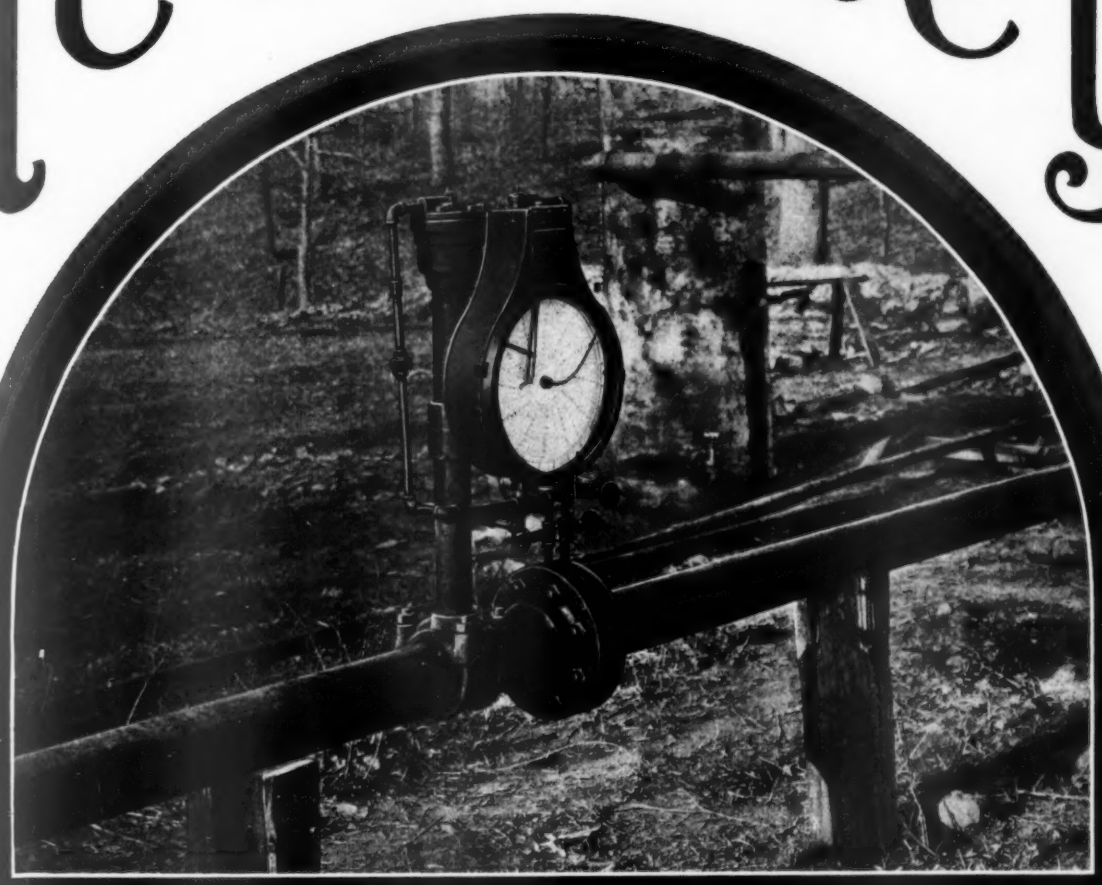

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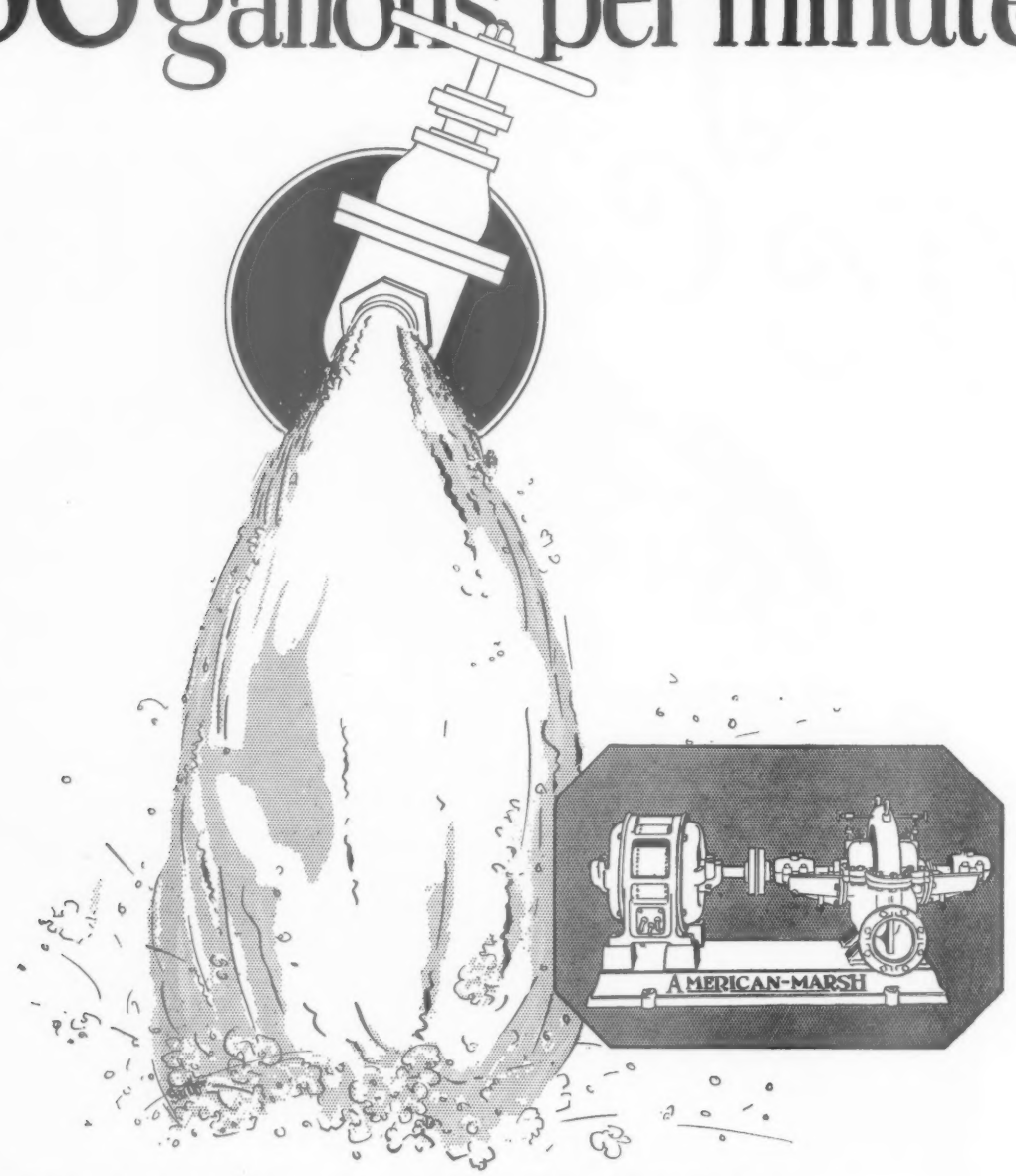

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either the first or second Sunnybrook sand and was drilled to a depth of 582 feet for a dry hole. Crawford and others are getting down close to pay sand at a test on the Morgan No. 1 lease.

In the Sulphur Creek district of Cumberland County, W. S. Raydure and Son's No. 5 on the M. E. Coop farm, which made a very nice showing at 837 feet, was drilled to a depth of 875 feet where it is producing 10 bbls. per hour and helps boost materially the production of the county. In the same field the Southern Producing Co.'s No. 10 on the A. A. Huddleston farm was put on the pump at a total depth of 525 feet, showing for around 5 bbls. At last report the Hook & McComas No. 2 on the J. M. Riddle farm was drilling at 550 feet and going for the deeper pay sand.

In the Pulsey Creek division of Cumberland County, McClintock, Reed and Heckerthorn's No. 3 on the J. M. Hughes lease is rated at 10 bbls., and No. 4 at 5 bbls., the latter at 862 feet.

In the Kettle Creek district, the Hardly Able Oil Co.'s test on the Charlie Scott lease, which showed a production of 6 bbls. in the Anderson sand at 417 feet, was drilled to a depth of 500 feet and into water, but is reported making 3 bbls. of oil as well.

Barren County

The best completion in Barren County for the week was made by the Esslinger Oil Co. in its No. 7 on the C. B. Jones farm in the Lecta Pool, 3 miles southeast of Glasgow. No. 5 on this farm was a duster and No. 8 is drilling.

In the Emery-Moore Pool the Ruby Oil & Gas Co.'s No. 6 on the W. E. Steffey farm struck pay at a depth of 328 feet, 11 feet under shale, and looks like a strong 20-bbl. producer. Phil Kopel's No. 2 struck shale from 251 to 299 feet and at last report was at a depth of 374 feet, or 75 feet below the black shale and nearing pay sand. Houchins Leasehold Co.'s No. 13 Mayfield farm, estimated at 8 bbls., at a depth of 507 feet.

In the Hall Baker Pool the Consolidated Gas Co.'s No. 23 on the H. W. Duff farm is an important well as to location and adds a considerable acreage to the pool. The well is a 20-bbl. pumper. The Wood Oil Co.'s No. 1 Hutcherson farm, and across the highway from No. 23 on the Duff farm, has been delayed by a crooked hole, but should be straightened quickly and then completed, being close to the sand.

In the Gorby Pool T. L. Gorby and others are nearing pay at No. 3 on the Lessenberry farm.

In the Knob Road district, Ziegler Brothers' No. 4 C. D. Boud farm is standing with a charge of nitroglycerin in the hole with the tools on top, which forced the owners to abandon it. No. 5 is drilling about 50 feet from No. 4. No. 6, same farm, is drilling. R. B. Tyler's No. 7 White farm produced 25 bbls. at a depth of 453 feet.

Owensboro District

The Owensboro district of Hancock, Ohio and Daviess Counties is very active as nearly every available drilling outfit is at work which numbers close around 30. The fact that the Ohio Oil Co., one of the largest well owners in the country, has entered the Owensboro district may mean a more active development work. This company has had its representatives in the field for some time securing leases on several hundred acres, mostly in Daviess County, and in wildcat territory, and reports are it will start a number of wells at once. Other companies are quietly coming into the field, taking up leases, and more activity will be shown in field work.

Only two completions were reported for the week from the Owensboro Field, both being good producers. C. E. Daugherty and others' No. 11 on the Lucida Crowe 150 acres, 400 feet east of No. 8, same farm, is reported at 25 bbls. from the Barlow sand. This firm is drilling a second test on the Oat Neel farm, 200 feet southwest of No. 1 on the same farm. The other completion is the White Plains Oil & Gas Co.'s No. 2 on the John Ward 50 acres for 25 bbls. flush.

J. W. Loman, attorney, is drilling No. 3 on the Joe Bob Ellis 50 acres, and offsetting the White Plains Oil & Gas Co.'s No. 1 on the south 50 acres of the Joe Bob Ellis farm on the south side of the railroad. The Leeper Oil Co. is drilling a well on the J. S. Collier farm of 100 acres, near the Collier Pool. The Penn Indiana Oil Syndicate is drilling No. 6 on the Laura Mercer 84 acres. Tremor & Thompson are starting a well on the M. Coleman farm. Chicago Petroleum Syndicate is drilling No. 7 on the Guenther-Gant lease, while the White Plains Oil & Gas Co. is starting No. 4 on the J. J. Midkiff farm. The Leeper Oil Co.'s No. 7 on the Howe farm is a light pumper.

The Chicago Petroleum Syndicate's No. 6 on the Guenther-Gant lease is reported an average pumper in the Barlow sand, estimated at 10 bbls.

Clarence A. Leeper's No. 2 on his own land failed to show any oil in the Jett sand and is drilling to the Barlow sand. This well is in the northeast corner of the farm.

Allen County

In the Scottsville Field of Allen County the usual old-time activity is not shown, although it maintains its work about as well as any of the older counties. The Citizens Oil Co.'s No. 17 on the I. H. Rickman farm is a 3-bbl. pumper at 399 feet. Allen Oil Corp.'s No. 7 J. E. Pearson farm is good for around 1 bbl at 344 feet.

The New Domain Oil & Gas Co.'s No. 1 Claude S. Haley farm proved a duster at 354 feet and Parsons & Reid struck one in No. 6 on the B. R. Freeman farm at 338 feet.

The Citizens Oil Co. is drilling No. 18 I. H. Rickman farm, and W. G. Moorman, receiver, is drilling No. 12 J. W. Frost farm.

Warren County

Three completions are reported from the Bowling Green Field of Warren County.

Onsel Brothers' No. 7 on the C. G. Davenport farm, Section 78, in the Davenport Field, was completed for a 10-bbl. producer in the deep sand at 1,170 feet, while their No. 13 on the Mary Ferguson farm pumped 3 bbls. at 1,161 feet.

E. M. Treat and others' No. 10 on the Edward and Betty Bass farm is a 5-bbl. pumper at 1,036 feet.

N. LOUISIANA-ARKANSAS

(Continued from Page 46)

& Freeman's No. 1-B Urania, SE cor. SW NE, Section 7-10-2e. Cherokee Petroleum Co.'s No. 3 Louisiana Central, Section 33-10-3e, is shut down at 1,200 feet waiting for water. Six-inch casing was cemented at 1,520 feet at O. W. Clark's No. 2-D Russell, Section 25-10-1e. Dixie Oil Co.'s No. 7 Urania, SW cor. SW SE, Section 24-10-1e, is a derrick. A rig is up for Hamilton and associates' No. 1 Wright, NW cor. SE SE, Section 26-10-1e. Hardtner Oil Co.'s No. 5 Urania, Section 7-10-2e, tested salt water at 1,528-37 feet and the hole is being cemented to the casing seat for another test. A rig is up for Hope Oil Co.'s No. 2 Urania, NW cor. SW SW, Section 19-10-2e. A. E. Hudson's No. 4 Urania, Section 7-10-2e, is drilling at 1,220 feet. H. L. Hunt's No. 11 Tullos Heirs, Section 26-10-1e, is a rig. Hunt, McCurry & Zoder's No. 2 Urania, Section 7-10-2e, is in sand at 1,509-18 feet waiting for a standard rig. Henry Jones' No. 1 W. Taylor, NE cor. NW SW, Section 23-9-1e, is a rig and Keen & Woolf's No. 1 Tisdale, SE cor. NW NW, Section 26-10-1e, is a rig. A derrick is standing for Louisiana Oil & Refining Corp.'s No. 9-A Tremont, SE cor. SE NE, Section 35-10-1e. Same company's No. 33-B Tremont, NE cor. SE NE, Section 25-10-1e, is drilling at 100 feet.

Love and associates' No. 5 Zimmerman, 660 feet east and 150 feet north SW cor. NE SW, Section 25-10-1e, is a rig. Six-inch casing is being set at 1,516 feet at McGaha and associates' No. 1 Urania,

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Section 7-10-2e. Six-inch casing was cemented at 1,480 feet at Montague Oil Co.'s No. 2 Zenoria Lumber Co., Section 11-9-1e. W. T. Murray's No. 2 Doughty, Section 36-10-1e, is drilling at 1,300 feet. Natural Gas & Fuel Corp.'s No. 1 Cockerham, Section 36-10-1e, cemented 6-inch at 1,495 feet, has a hole full of oil from sand at 1,503-09 feet, corrected depths, and is waiting for a standard rig. On the Natural Gas & Fuel Corp.'s Urania lease, Section 18-10-2e, No. 4-E is in sand at 1,506-14 feet waiting for a standard rig; No. 5-E is in sand at 1,511-20 feet waiting for a standard rig; No. 6-E is waiting for a standard rig and had sand at 1,508-13 feet; 6-inch was cemented at 1,501 feet at No. 8-E; 6-inch was cemented at 1,520 feet at No. 1-K and at 1,525 feet at No. 2-K; surface casing was set at 102 feet at No. 3-K; No. 4-K is being rigged and No. 2-F Urania, Section 24-10-1e, is drilling at 900 feet.

Nelson and associates' No. 1 Doughty, Section 36-10-1e, is waiting for 6-inch casing to set at 1,474 feet. Robinson & Long's No. 1 Louisiana Central, Section 6-10-3e, is drilling at 1,354 feet. Standard Drilling Co.'s No. 1 Cruse, Section 30-11-4e, has resumed drilling and is going through sandy shale at 1,769 feet. Standard Oil Co.'s No. 1 Cockerham, Section 36-10-1e, is drilling through shale at 1,400 feet. Twelve and one-half inch casing was set at 100 feet at Tunica Petroleum Co.'s No. 3 L. & A., Section 19-9-2e, and Tunica's No. 4 L. & A., Section 15-9-3e, is rigged up ready to start. Six-inch casing was cemented at 1,471 feet at George W. Wetherbee's No. 1 Urania, Section 2-9-1e.

Bossier Parish

Arkansas Fuel Oil Co.'s No. 1 Murray, Section 14-23-14, is drilling in hard lime at 3,727 feet. Autrey Oil Co.'s No. 3 Connell, 1,220 feet north and 470 feet west, SE cor. Section 15-19-11, is waiting on a standard rig at 417 feet, and a rig is up for No. 4 Connell, Section 15-19-11. Benton Syndicate's No. 1 Bulkley, Section 9-20-13, is coring at 1,215 feet. Doern and associates' No. 1 Bollinger, Section 9-22-11, is drilling at 2,028 feet. The Texas Company's No. 1 Moon, Section 13-19-11, is drilling in gumbo at 251 feet. Woodley & Collins' No. 1 L. & A., Section 14-23-12, tested salt water at 2,718 feet and a showing of oil at 2,723 feet. The test is to be deepened slowly.

Caddo Parish

Caddo closed the week with half a dozen new wells. Dixie Oil Co.'s No. 16 Muslow, Section 7-20-15, is making 50 bbls. on the pump at 2,258 feet. Galloway and associates' No. 1 Burglass, Section 15-21-16, is pumping 60 bbls. daily from 2,120 feet. Gulf Refining Co.'s No. 234 Ferry Lake, Section 15-20-16, is making 14 bbls. on the pump at 2,283 feet and No. 236 Ferry Lake in Section 16 is flowing 75 bbls. daily by heads through the tubing from 2,288 feet. Magnolia Petroleum Co.'s No. 22 Raines, Section 22-21-15, is pumping 30 bbls. at 1,665 feet and R. B. Nelson's No. 2 Files & Shanks, Section 24-22-15, was credited as a 25-bbl. pumper at 1,050 feet.

W. D. Chew's No. 4 State, Section 34-21-16, is drilling at 300 feet, and his No. 1-A Caddo L. B., Section 9-20-16, is drilling at 1,870 feet. Chew's No. 4 fee, Section 33-21-16, is waiting for a standard rig at 1,850 feet. Dixie Oil Co.'s No. 1 Jolly, Section 27-22-15, is drilling at 4,119 feet, and No. 71 Robertshaw, Section 14-21-15, is in lime at 3,655 feet and going ahead. Dixie's No. 77 Robertshaw, Section 14-21-15, is drilling at 1,400 feet. Dixie's No. 6 Hobbs, 100 feet south and 785 feet east NW SW SE, Section 24-22-15, is waiting for 6-inch to set at 1,020 feet. Gilliam Syndicate's No. 1 Cummings, Section 20-21-14, is waiting on a standard rig at 901 feet. Gulf's No. 1 J. M. Byrd, Section 2-19-14, is drilling in broken lime at 2,612 feet. On the Ferry Lake lease in Section 16-20-16, Gulf's No. 242 is drilling in blue gummy shale at 365 feet; No. 244 is a derrick and a derrick pattern is on location for 249, 2,940 feet north and 2,340 feet west SE cor. In Section 15, 6-inch casing was cemented at 2,150 feet at No. 240. No. 241 is drilling in gummy shale at 1,940 feet; surface casing was set at 160 feet at No. 243; No. 244 is a derrick.

Gulf's No. 238 Ferry Lake, Section 21-20-16, is being bailed to test at 2,275 feet; No. 239, Section 22-20-16, is drilling in gumbo at 2,190 feet, and No. 245, same section, is a derrick. Gulf's No. 12 Tyson, Section 14-21-15, is drilling in hard gray lime at 3,805 feet. Lewis Oil Corp.'s No. 15 D. H. Raines, Section 22-21-15, is waiting for a standard rig at 1,616 feet, and its No. 7 Vespy, Section 15-21-15, is a rig. Magnolia's No. 16 Dillon, Section 24-21-15, is drilling at 2,466 feet, and No. 17 at 2,483 feet. Magnolia's No. 1 Spell, Section 29-21-15, is going through hard lime at 3,149 feet. Six-inch casing was cemented at 3,644 feet at Magnolia's No. 1 Wiley Bradford, Section 24-21-15.

McGoldrich and associates' No. 9 Murray, Section 14-21-15, is drilling at 700 feet. Arrangements are being made to set 6-inch at 2,272 feet at Murphy and Jones' No. 1 Youree-Randolph, Section 13-20-15. Ohio Oil Co.'s No. 1 J. S. Ardis, Section 1-21-15, is fishing at 4,656 feet, and the rig has been moved away from Ohio's No. 20 E. K. Smith, Section 12-21-15. Page and Caldwell's No. 1 Hobbs, Section 29-21-15, is shut down at 2,240 feet. Standard Oil Co.'s No. 1 Bettie S. Youree, Section 13-20-15, is drilling in hard shale streaked with lime at 2,496 feet. The Texas Company's No. 47 C. M. L. Co., Section 23-21-15, has been temporarily abandoned at 3,001 feet. Six-inch was set at 2,190 feet at The Texas Company's No. 62 Caddo L. B., Section 33-21-16, and No. 63 is drilling in sand at 1,000 feet. On The Texas Company's other leases in Caddo, No. 2-B Federal Jeems Bayou, Section 16-20-16, is waiting for a standard rig at 2,294 feet; No. 4 Chew fee, Section 33-21-16, is drilling in gas rock at 951 feet; No. 53 Harrell, Section 2-21-16, is being bailed to test at 1,063 feet; a derrick is up for No. 4 Hicks and Payne, 1,980 feet south and 330 feet west NE cor. Section 21-21-15; No. 7-A Hobbs, Section 28-21-15, is drilling at 1,010 feet, and No. 3-B Hobbs, Section 21-21-15, is waiting for 6-inch to set at 1,305 feet. Six-inch was cemented at 1,450 feet and the plug is being drilled out at Tholl Oil Co.'s No. 10 Bashara, Section 23-21-15, and the plug at 1,450 feet is being drilled out at Tholl Oil Co.'s No. 9 Huckaby, Section 14-21-15. Surface casing was set at 120 feet at Woodley Petroleum Co.'s No. 3 Knight, Section 35-16-12.

Caldwell Parish

Cherokee Petroleum Co.'s No. 1 Louisiana Central, Section 10-11-2e, is shut down at 1,530 feet where a show of oil is claimed to have been found. The test is waiting for casing. Grant and Pipes' No. 1 Cruse, Section 6-11-4e, is drilling in gumbo at 1,475 feet. Surface casing was set at 57 feet at Humble's No. 1-A Louisiana Central, Section 9-11-3e. Location has been made by the Southern Crude Oil Purchasing Co. for No. 1 Caldwell Lumber Co., 660 feet south and 760 feet east NW cor. Section 35-14-5e, and for No. 2 Caldwell Lumber Co., 3,724 feet south and 660 feet west NE cor. Section 1-13-5e. Wright and associates' No. 1 Love, Section 16-11-2e, is coring at 1,550 feet.

Claiborne Parish

Brown and associates' No. 1 Beard, Section 28-19-5, is shut down at 2,500 feet. Arrangements are being made to set 6⅝-inch casing at 4,062 feet at Gilliand and Ramsey's No. 1-D Taylor, Section 14-23-8. Six-inch casing was cemented at 1,193 feet and the plug is being drilled out at Standard Oil Co.'s No. 35 Lowenberg, Section 24-21-6. Triangle Drilling Co.'s No. 1 Hollayfield, Section 32-23-5, is drilling at 2,896 feet and Triangle's No. 1 Keen, Section 7-19-5, is fishing for a core barrel at 4,211 feet.

DeSoto Parish

Casing is being lowered to 3,900 feet at Dixie Oil Co.'s No. 1 Jenkins, Section 9-12-11. J. P. Evans' No. 1 Sutherlin, Section 20-12-14, tested dry with a show of oil at 2,880 feet and is being deepened a few feet. Magnolia's No. 1 Bond, Section 27-12-11, is drilling in lime and shale at 3,110 feet. J. C. Walton's No. 1 Chaffraix, Section 36-12-11, is drilling at 2,100 feet.

Grant Parish

Grant Parish added two more failures to the big wildcat play being given that parish when Humble's No. 6 L. & A., Section 8-9-2w, struck salt water at 1,530 feet and was abandoned and Finn and associates' No. 5 Ball and Cody, Section 13-8-1w, was abandoned at 2,327 feet. Bradley and Cozart's No. 1 Holmes, Section 16-9-1e, is drilling at 1,365 feet. Finn and Hurdley's No. 1 Ball, Section 32-7-1w, is shut down at 1,820 feet. F. M. Fuller and associates' No. 1 Harrison, 660 feet south NW NW NE, Section 9-8-5w, is a location. Location has been made for Gulf's No. 1 L. C. Swope, 1,526 feet north and 200 feet east SW cor. Section 17-9-1e. Humble's No. 5-A L. & A., Section 16-9-1w, is drilling at 728 feet, and No. 8-A L. & A., Section 15-9-2w, is being rigged up. Tunic Petroleum Co.'s No. 1 L. & A., Section 20-9-1e, is drilling at 920 feet, and Tunica's No. 2 L. & A., Section 32-9-1e, is rigging.

Webster Parish

Humble's No. 2 R. R. Cox, Section 22-21-10, is drilling in broken lime at 1,632 feet. Magnolia's No. 2 Tiner, Section 21-21-10, is a rig. Six-inch casing was cemented at 2,552 feet at Magnolia's No. 2-B Turner, Section 21-21-10. Ohio Oil Co.'s No. 1 W. Cox, Section 23-21-10, is drilling in lime and shells at 5,511 feet. Ohio's No. 3 Holloway, Section 23-21-10, is going through lime and hard sand at 3,941 feet, and Ohio's No. 7 Sidney heirs, Section 16-21-10, is drilling at 1,015 feet. Smitherman and McDonalds' No. 1 Oakley, Section 29-33-11, is drilling in blue and brown shale at 4,400 feet. Southern Crude Oil Purchasing Co. and W. R. Ramsey's No. 1 Munn, Section 1-22-10, is drilling in gumbo at 3,794 feet.

Monroe District

Two gas wells with a combined production of 9,000,000 feet of gas were completed in the Monroe district last week and one deep test was junked.

United Carbon Co.'s No. 2 Wilson, Section 24-20-4e, was completed at 2,158 feet and gauged 6,000,000 feet of gas. Palmer Corp.'s No. 3 fee, Section 24-19-4e, was finished at 2,224 feet and is a 3,000,000-foot gas well. Natural Gas Products Co.'s No. 18 Crossett, Section 27-23-5e, was junked at 3,152 feet. Feazel, trustee's No. 1 Archer, Section 22-20-4e, was abandoned at 867 feet. The hole was cemented to kill a gas blowout and water flow from that depth.

In Morehouse Parish, Natural Gas Products Co.'s No. 19 Crossett, 1,320 feet south and west center, Section 24-21-4e, is a derrick. United Carbon Co.'s No. 1 Burton, 1,060 feet north and 939 feet east northerly corner, Section 24-20-4e, is a rig. Boisseau and associates cemented the 6-inch at 2,505 feet preparatory to testing at 2,505-32 feet, steel line measurement.

In Union Parish, Arkansas Fuel Oil Co.'s deep test, No. 1 James Reeves, Section 14-20-1e, is drilling in brown lime at 3,676 feet. Eight-inch casing was cemented at 856 feet at Southern Carbon Co.'s No. 4 Grayling, Section 28-21-4e, and drillers are trying to kill a fresh water flow at 575 feet at Southern's No. 5 Grayling, Section 21-21-4e. Southern's No. 2-B Grayiing, Section 32-21-4e, is drilling at 1,675 feet. Ruston Drilling Co.'s No. 2 Parks, Section 30-20-4e, is drilling at 2,051 feet.

The bulk of the field operations in Monroe are being carried on in Ouachita Parish. The drilling stem is being sidetracked at 725 feet at Central Co.'s No. 1 Kerr, Section 12-9-4w. Hatcher and Evans' No. 4 fee, Section 17-19-4e, is drilling at 1,255 feet. Eight-inch casing was set at 852 feet at Hodge and Hunt's No. 1 Miller Roberts, Section 11-18-4e. J. M. Huber's No. 3 Banks, Section 36-19-4e, is drilling at 1,725 feet. A derrick is being built for Ladell and associates' No. 34 feet, 755 feet south and 660 feet east NW cor. Section 6-19-5e. A gas blowout at 1,290 feet was killed at Maury Drilling Co.'s No. 3 McErwin, Section 20-19-4e, and the test is drilling at 1,300 feet. R. J. O'Brien's No. 1 Ray & Green, Section 2-18-4e, is drilling at 715 feet. Eight-inch casing was cemented at 812 feet at Palmer Corp.'s No. 2 Millsap, Section 25-20-4e.

Winn Parish

Humble's No. 1-B William Edenborn, Section 1-9-3w, is drilling at 2,225 feet. Hunt and associate's No. 1 Edenborn, Section 8-9-3w, is shut down at 1,820 feet waiting for a drilling stem. Keen & Woolf's No. 1 Radescich, Section 21-12-3w, is drilling in shale at 1,925 feet. Ohio Oil Co.'s No. 1 Edenborn, Section 4-12-1w, is being rigged. C. H. Wilson's No. 1 Louisiana Central, Section 24-13-1e, is drilling at 1,680 feet.

Scattered Wildcats

S. B. Goodman's No. 1 Montgomery, Section 8-10-9e, Catahoula Parish, is drilling at 1,210 feet. Clarence Housman's Jackson Parish test, No. 1 Horton, Section 34-15-3w, is being rigged up. In Lincoln Parish, Arkansas Fuel Oil Co.'s No. 1 Cooper, Section 3-20-4w, is drilling in shale at 1,134 feet. Bannon and associates' No. 1 C. Yerger, Section 51-16-14e, Madison Parish, is shut down at 1,090 feet. In Natchitoches Parish, Davidson and associates' No. 1 Guellat, Section 47-7-5, is coring at 675 feet. Forrest, trustee's No. 1 Ayers, Section 3-13-7, is drilling in gumbo at 1,100 feet, and J. F. Palmer's No. 1 Edenborn, Section 4-11-6, is drilling at 1,960 feet. Carnahan and Kyle's No. 2 Hollingsworth, Section 24-12-11, is drilling at 500 feet. J. B. Greer's Sabine Parish test, No. 2 Peavy-Wilson, Section 11-5-9w, is drilling at 330 feet. A rig is up for Toro Petroleum Co.'s No. 3 Drake, formerly No. 1 Wyatt Lumber Co., SE cor. NW SE, Section 19-4-11.

Few Big Producing Leases

Out of the more than 550 producing properties in the Smackover heavy oil area only 4 produced an average of more than 2,000 bbls. per day in the month of May. The largest production was on the Phillips Petroleum Co.'s Joyce lease, which yielded 106,300 bbls. in the 31-day month. Other leases which did close to or more than 2,000 bbls. a day were J. A. Burgoon's Synder lease, 60,089 bbls.; Gulf Refining Co.'s T. D. Murphy lease, 66,301 bbls.; same company's S. Umsted lease, 65,589 bbls., and the Arkansas Fuel Co.'s Snyder lease, 63,327 bbls.

ARTESIA, NEW MEXICO

(Continued from Page 46)

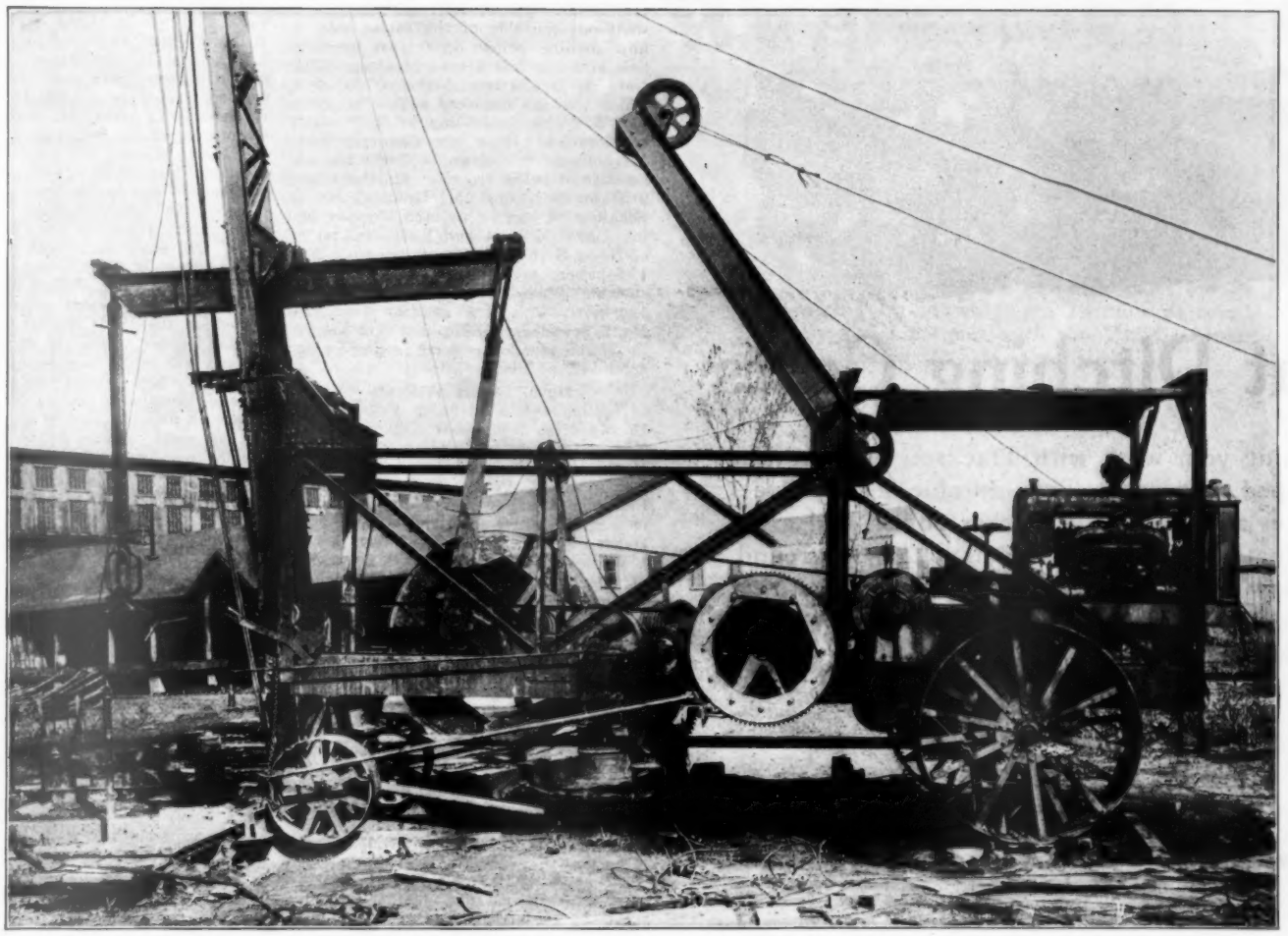
19-18-29, drilling in 500 feet of oil in hole; Wooley & Jones' No. 1 Beeson permit in Section 33-17-30, seeting 6-inch casing at 2,400 feet.

Chaves County

Colorado Gas & Fuel Co.'s No. 1 in Section 16-8-27, shut down; Dunn and others' No. 1 in Section 8-11-23, shut down at 360 feet; De Vito and others' No. 1 in Section 24-11-25, drilling below 500 feet; Gibson Oil Corp.'s No. 1 Forsyth in Section 8-11-23, drilling below 500 feet; Rogers and others' No. 1 Purcell Sloop in Section 14-11-26, drilling below 1,300 feet; The Texas Company's No. 1 Dunken Dome in Section 29-17-18, drilling below 600 feet.

Lea County

J. S. Covert's No. 1 in Section 15-21-33, drilling 900 feet; Inglefield and others' No. 1 in Section 4-17-34, drilling at 350 feet; Maljamar Oil & Gas Corp.'s No. 1 Baish, in Section 21-17-32, making 100 bbls. daily from 4,108 feet; Maljamar's No. 1 Simon permit in Section 29-17-32, validated hole; Maljamar's No. 1 Grace Mitchell permit in Section 5-17-32, ready to spud; Maljamar's No. 1 Beardsley permit, in Section 15-17-32, validated hole; Maljamar's No. 1 Pearsall permit in Section 33-17-32, waiting for tools; Maljamar's No. 1 McDonald & Jewett permit in Section 13-18-32, waiting for casing at 310 feet; Maljamar's No. 1 Walker permit in Section 5-18-32, drilling below 400 feet; Maljamar's No. 1 Anna Stroup permit in Section 1-18-32, setting casing; Maljamar's No. 1 Cheesman permit in Section 22-18-32, moving in rig; Maljamar's No. 1 Mitchell permit in Section 17-17-32, validated hole; Maljamar's No. 1 Pearl Miller permit in Section 23-17-32, validated hole.



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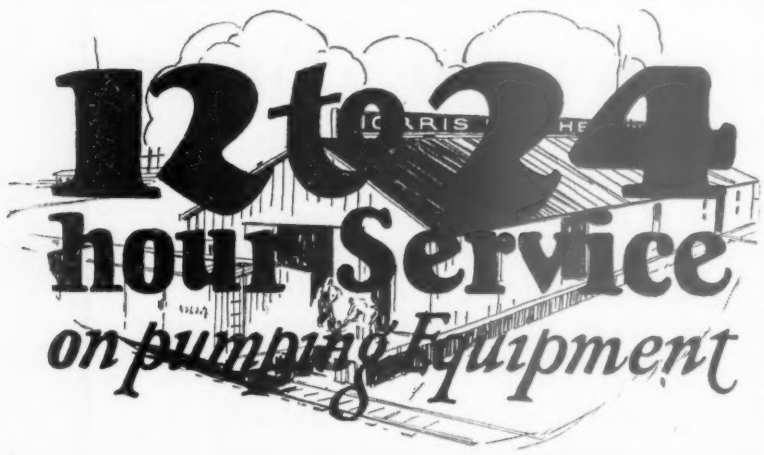

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SOUTHWEST TEXAS

(Continued from Page 58)

eral sands. It put in a whipstock and went out the side of the casing and is now drilling below 3,200 feet on new hole and will test a sand at about 3,312 feet. It is 450 feet southeast of No. 4 which was the discovery well. Humble's No. 6 Walsh is drilling at 2,224 feet, one location west of the discovery well. Magnolia is shut down at 3,660 feet on account of boiler trouble. Humble's No. 9 Singer is rigging up. Humble's No. 5 Schallert is rigging up, the location being 1,200 feet east and 2,900 feet north of No. 4 Schallert. Simms Oil Co.'s No. 1 Schallert at 3,609 feet is in a sand showing some oil and will probably set and test. This well and the Humble's No. 5 Schallert and No. 9 Singer are on the Palangana salt dome a few miles northwest of Piedras Pintas.

Duval County Wildcats

Humble Oil & Refining Co.'s No. 1 Dowdy (fee) tested salt water at 1,654 feet and is now drilling at 1,718 feet. Murchison & Fain are drilling at 1,800 feet in No. 1 Peters in Duval County. Benedum & Trees are drilling at 2,251 feet in No. 1 Southerland. Maurer & Duggan are drilling at 3,461 feet in No. 1 Willie Hoffman a few miles northwest of the Palangana salt dome. J. T. Graham has set casing to test at 2,462 feet in No. 1 Beall in the northeast corner of Duval County. Morgan Oil Corp. has set casing at 1,870 feet in a good looking sand in Block 29 of Survey 1 of the Mesquite ranch about 1½ miles southeast of the Cole Field. Simms Oil Co. is testing its No. 1 Dinn, previously reported as a 7,800,000-foot gas well (dry gas) 5 miles north of the Cole Field in Survey 666. The well was put on choker before it had cleaned itself and was being allowed to clean itself through the choker. It is to be opened wide and it is believed the volume of gas will increase when the well is thoroughly cleaned. O'Hern & Putnam are moving a rig to Block 12 of Survey 174, about 5 miles south of the Cole Field where they have erected a 112-foot derrick and will rig up for an extra deep test for O'Hern, Putnam & Seacord.

Zapata County

O. W. Killam's No. 1 Hinnant on Block 41 of Survey 307 in Zapata County tested salt water in a sand at 1,555-61 feet though it showed some oil and gas as well. It is drilling deeper. It is a little north of the old Mirando Valley Pool. Derrick is up for the No. 2 Hinnant, on Block 9 of Survey 308. Maurer & Duggan are fishing for a bit at 1,960 feet in No. 2 Cuellar in Survey 243 in Zapata County. Benedum & Trees are rigging up on Block 22 of the Fansler & O'Hern subdivision of the Villa Grant. Magnolia Petroleum Co. is drilling at 950 feet in No. 1 R. Cuellar in Survey 278. Rollin V. Hill has the derrick up for a test in the southeast corner of the Villa Grant. It is a little west and south of the Simms well on Survey 143 in Jim Hogg County. Hill & Perkins have resumed drilling in their No. 1 Yeager Strohman in Survey 258 at a depth of 2,012 feet. Cullinan & Clark are plugging back from a total depth of 2,240 feet in No. 1 Hinnant in Block 9 of Survey 10 and will make a test at 1,493 feet. The Texas Company is drilling at 4,575 feet in its No. 2 Jennings.

Charco Redondo

R. R. Clark and associates have completed No. 49 in the Charco Redondo Field in the southern part of Zapata County and it is a three-quarters of a mile extension of the field to the north. At 162 to 172 feet it is estimated to be good for about 8 bbls. which is about the best of the field. No. 49 had a 10-foot sand. No. 50 is to be drilled about three-quarters of a mile west and these two promise to greatly extend the field. Negotations are under way with different interests for building a pipeline from the field either north to the Randado Field to connect with pipelines there or to Rio Grande City on the south where shipments could be made by rail.

Plateau Oil Co. is drilling at 360 feet in No. 1 Tomlin, a little west of Anchorage in northwestern Atascosa County. Witherspoon Oil Co. is drilling at 860 feet in No. 1 Tuerpe a little south of the western extremity of the Somerset Field. W. G. French has rigged up with a 112-foot derrick on the Frank Jaksik land in northeastern Atascosa County for a test contracted to go 100 feet into the Edwards or to 4,000 feet. In the Atascosa County end of the Somerset Field Claude McCauley (Jonray Oil Co.) has bought a block of leases 1 miles south of the town of Somerset and in the heart of the older part of the Somerset Field with some wells on it. Hamilton Oil Co. has started to drill some additional tests on the Hughes lease in the western extension of the field, to further develop its lease and has contracted to start drilling by September on the M. D. Jordan tract north of the Hughes lease. If it gets a well there it will result in quite an important extension. Associated Petroleum Co. has set and cemented casing in No. 4 Dillon-Glasscock and has started drilling No. 5 on the same lease. Johnson Brothers who have considerable production in the field and shut down drilling operations some months ago have resumed drilling and will further develop their leases.

Bexar County

Marland Oil Co. is drilling in Glenrose in No. 1 Mihalski in eastern Bexar 1 mile north of St. Hedwig. The first core dentified as Glenrose was 2,120 feet and is probably close to the top. Total depth at last report was 2,283 feet. I. L. Dingman's No. 1 Gembler, southeast of San Antonio in Bexar County, got sulphur water at 960 feet and is preparing to make a new location. W. L. McClanahan has abandoned the idea of drilling his No. 2 Sodrok deeper for an Edwards lime test and the well is being abandoned at 1,405 feet where it tested for a small well. It is a mile east of Adkins in eastern Bexar County where three or four shallow wells making about 3 bbls. each at 650 feet have been completed. Humble Oil & Refining Co. has torn down the rig on No. 1 Yturri, a test about 1 mile east of two wildcats tests it drilled on a big block of leases south of San Antonio last year. Total depth is 1,570 feet. Storey & Stieren's No. 1 Cover a few miles east of Humble is drilling at 1,800 feet. Utah Texas is drilling at close to 2,885 feet in No. 1 Ivan Vick in the southern part of the county. It topped the Edwards at 2,800 feet and for a time had indications it might make a well. Of late it hasn't looked so encouraging.

Bastrop County

Cranfill & Reynolds abandoned without shooting No. 2 Hendrix in Bastrop County near Cedar Creek. Total depth was 1,900 feet and it had a showing of oil and some sulphur water at 1,870 feet. It was an Austin chalk test. Amerada is drilling at 900 feet for a chalk and Serpentine test in a well near the Cranfill & Reynolds well and the Cedar Creek district which has already seen several tests is to be further tried out. Fred Adams' No. 1 Calloway near Smithville is drilling at 1,000 feet.

Bee County

Benedum & Trees have rebuilt the derrick on No. 1 Goree which was pulled in while attempting to pull the drill stem after taking a core at 3,420 feet. An attempt will be made to clean the hole.

Brooks County

Benedum & Trees' No. 1 Wormser in the northwestern corner of Brooks County has been abandoned at 3,710 feet. Ballard & Underwood are drilling at 1,600 feet in No. 1 Lassater in the northeastern corner of the county.

Caldwell County

Sun Oil Co. is to deepen No. 7 Gomillion in the southeast corner of the Gomillion tract in the Lytton Springs Field which has been producing from the Serpentine. Gulf Production Co. got a dry hole in No. 1 Cardwell offsetting the Witherspoon Brewer lease in the eastern part of the Lytton Springs Field, at a depth of 1,700 feet. Witherspoon Oil Co. will start a chalk and Serpentine test on the Edm. Loep farm in the L. L. Joseph Survey, about 8 miles northeast of

the town of Lockhart. John T. Storey is rigging up and will probably spud in this week on the Hughes' 18-acre lease south of Dale where major oil companies are contributing to another test of the structure. Reiter-Foster is also arranging for another test of its acreage in that territory where it got one of the best Edwards lime showings found outside of Luling Field.

Guadalupe County

A. P. Mueller is shut down in No. 1 D. F. Smith on the W. H. Hunter survey in Guadalupe County at 1,850 feet. Pat Armstrong has resumed drilling at 1,480 feet in his No. 1 Dale, northwest of Kingsbury. J. M. Davis has abandoned No. 1 Schultze in western Guadalupe County at New Berlin at a total depth of 2,020 feet and 175 feet into the Edwards. Payne & Bond are preparing to make a second test in western Guadalupe south of New Berlin where they have abandoned their Edwards lime test. No. 2 will seek to test out a shallow sand with a showing of Serpentine formation from 1,205 feet to 1,310 feet. The Texas Company's No. 1 McGonigal south of Kingsbury has resumed drilling at 2,340 feet after a shut down. It is hitting the formations lower than in No. 1 Glenwinkle on the same block and is not looking encouraging.

Jim Wells County

Benedum & Trees have abandoned No. 1 Gallagher in Jim Wells County south of Sandia at a depth of 3,063 feet.

Butler County

Earl B. Reynolds has spudded in No. 2 Butler in Karnes County, west of Runge and about 1,000 feet south of No. 1 that had two good showings of oil, one at around 2,600 feet and the other at 3,000 feet. Reynolds believes he will be able to make a well in No. 2 at either of these sands and will test first at 2,600 feet.

Lavaca County

Steinman Brothers are rigging up on the No. 1 fee in Lavaca County, 15 miles southeast of Yoakum.

Live Oak County

George B. Pickett is shut down at a little below 1,300 feet in his No. 3 George West at the station of Kitty on the Missouri Pacific. Mid-Kansas is resurveying its Diamond block which had an overrun of 30 acres and as soon as titles can be straightened will spud in the test which is at Fant City.

Maverick County

Humble Oil & Refining Co. which has been drilling with a light rig on the Sullivan ranch in Maverick County for formation tests have made the location for a deep test which will be on Block 16 of Section 11.

Medina County

Arnett Oil Co. has spudded in No. 4 Nixon in the Ina Field in Medina County. Magnolia Petroleum Co. has started its first test in the Ina Field since its purchase of a block of leases and six wells from the Ina Oil Co. The six wells have been cleaned out. During the past week the Golden West Oil Co., the largest producer in the Ina Field with five wells completed and producing, has purchased leases aggregating 128 acres and including two wells from Eastman & Tarver for a consideration of $18,000. Two of the wells purchased are on the Viola Wilson farm and offset two wells of Golden West on the Regina Schmidt farm.

South of Hondo 4 miles where the Medina Oil Co. early in the year brought in a well at 356 feet making 100 bbls. it circled the discovery well on four sides with only two very small wells and the other dry holes. It has recently drilled No. 5 due southwest and got a 25-bbl. well and is starting No. 6 located 300 feet southwest of No. 5. The field may consist of a small line of wells running northeast and southwest. Al Buchanan has been fishing for a month at 346 feet in his No. 1 Odom, northeast of the discovery well. North & South has rigged up and spudded in on its deep test a little to the north of the discovery 356-foot well and will drill to the Edwards lime.

The feature of the week in Medina is the showing of oil in the Kittle & Townley well on the Bendele tract in Survey 593, 8 miles southwest of Hondo. Casing has been set and the sand will be tested this week. The core showed considerable oil. Wharton of Wichita Falls will spud in by the middle of July on the Finger tract a little northwest of the Kittle & Townley well, and the Ina Oil Co. is drilling in Georgetown at 1,635 feet on the Hoffman lease east of Kittle & Townley and should reach the Edwards lime this week. On the Finger tract west of Kittle & Townley on Survey 746 Ina Oil Co. is at 400 feet and setting 10-inch casing with a showing of gas.

Pat Armstrong is about to start two tests north of Hondo and close to the Balcones Fault, one on the Lacey and one on the King tract. Rig is being moved now to the King tract. Alamo Drilling & Leasing Co. has been having many boulders in No. 1 Louis Graff a few miles north of the Ina Field. It was being drilled for a Serpentine plug and on the log of the Maxwell & Turman well 4,000 feet southeast of it. Maxwell & Turman found Serpentine at 690 feet but had no rock or boulders until 845 feet.

South of Ina Field

In the territory south of the Ina Field 2 miles where Henderson & Holden have completed three gas wells at 900 feet they are preparing to set casing on the fourth. Since the completion of the first gas well they have been hunting for oil production. Tarver & Sprague (Eastham & Tarver) got only a little oil in No. 1 Howard on Survey 91 a mile or more east of the Henderson & Holden well in a sand at 1,127 feet and are drilling deeper.

Considerable acreage has changed hands in the area of the gas wells based on the expectation that an oil field may be opened there. California-Medina's No. 1 Rothe in western central Medina County is fishing for casing, the casing having parted. Cecil Switzer is drilling in Edwards lime at about 1,750 feet in his No. 1 Zerr northwest of Hondo. Schermerhorn Oil Co. tested its No. 2 Irrigation Co. land test southeast of Noonan in eastern Medina County and got a 2-bbl. well about the same as No. 1 It is drilling at 895 feet and will continue to the Edwards. J. R. McCaldin's No. 1 Thompson, west of Devine, is taking a core at 2,185 feet. It encountered soft lime at 2,135 feet and if the core at 2,185 feet shows the hard Austin chalk it will be concluded that the log is running high compared to other wells. Gibson Oil Corp. is about rigged up with heavier rigs on both its Saathoff farm test south of D'Hanis and the Carpenter test on Survey 808 southwest of the Ina Field and each will drill to the Edwards lime. Stephens of Luling will drill a test south of D'Hanis and southwest 1 mile from the Gibson-Walsh test on the Saathoff.

Golden West Oil Co.'s No. 1 Joseph Courand, southwest of Castroville, drilling at 265 feet is shut down for repairs. H. W. Ward is changing his location northwest of Castroville.

Milam County

Considerable interest is centering in southwestern Milam County where The Texas Company is drilling at about 900 feet in No. 1 Esperson, and J. W. Allen has resumed and is drilling at 1,949 feet with a good showing of gas in No. 1 Joe Brown, 1 mile north of The Texas Company test and 6 miles west of Rockdale. Adjoining sections of Williamson County on the west and Lea County on the south are due for other tests and it is understood Magnolia Petroleum Co., which drilled on the Kime farm in southwestern Milam County last year and got a good showing of oil in the Edwards lime but failed to make a well, is arranging to drill again and Simms Oil Co. is arranging to drill in Williamson, near The Texas Company block. Simms is taking additional acreage west of Beaukiss and The Texas Company now drilling on the Esperson land in Milam County is arranging to drill on the Cook farm over in Williamson. Fritz Fuch is drilling in his test south of Thrall and north of Beaukiss.

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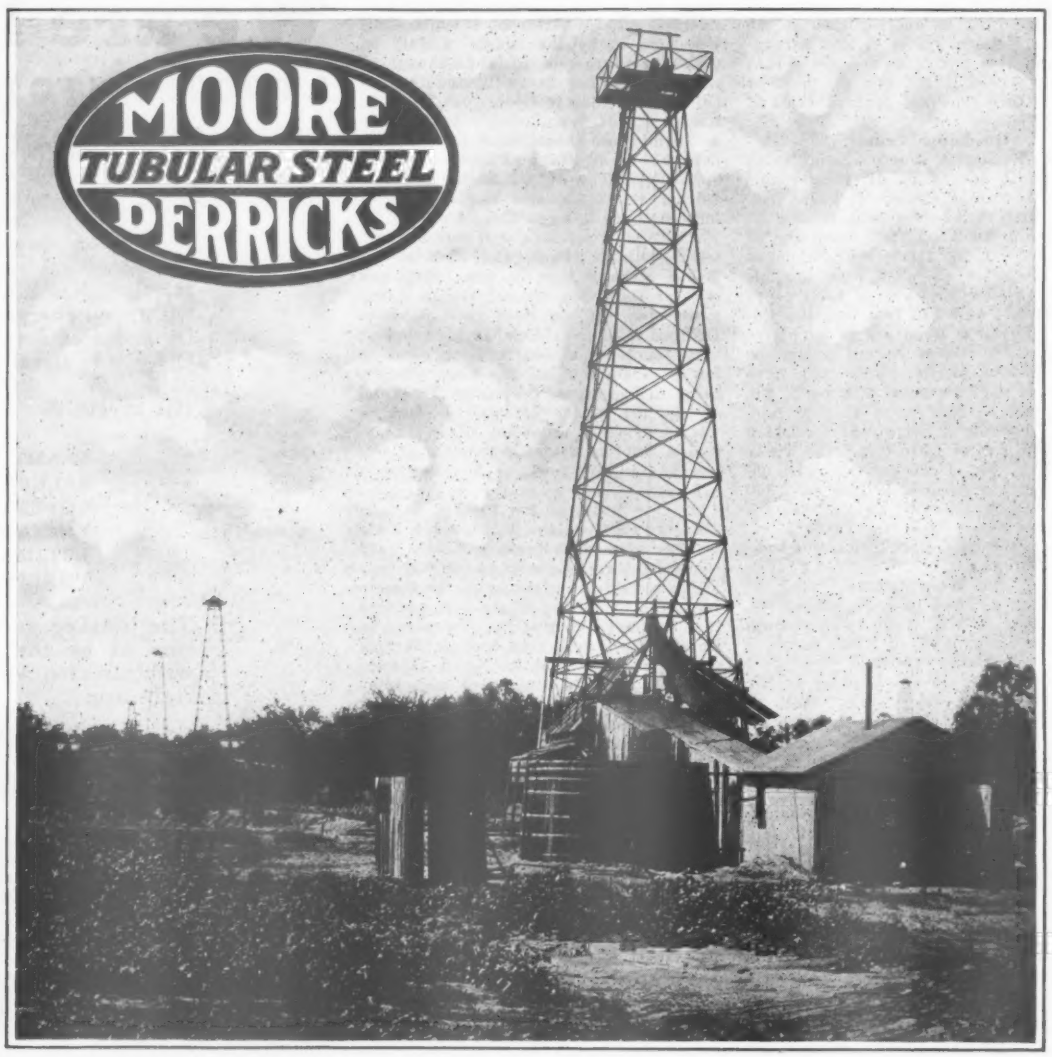

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who co-operated on one test in western Lea County south of the tests mentioned are arranging each to drill separately. The first test had quite a showing at about 1,800 feet and was abandoned at about 2,500 feet. Culvert will drill on the 160 acres next north of the first test and on the Kuykendall land. Plunkett Drilling Co. of Houston will drill on the W. F. Charles Survey, 1 mile north of Monheim. R. E. Burt recently abandoned at 910 feet his No. 1 E. A. Doss, 5 miles west of Rockdale. It was in the base of the Navarro and absolutely dry.

In the Rockdale shallow field the Milam Production Co. has completed No. 6 Strelsky for a small pumper and has spudded in on No. 7. Kent-Middleton have completed No. 9 on the Strelsky lease. Chicago Oil & Land Co. has completed No. 5 Gaither making a small pumper and is drilling at 500 feet in No. 6 Gaither. Brady Brothers have negotiated a deal with J. M. Lanning, J. C. Wallace and Ernest Noack for a joint development of the Baldridge 10-acre lease which adjoins the Strelsky lease on which some good wells are being brought in. One well was completed on the Baldridge lease some years ago. Alexander & Lyles who abandoned at 3,422 feet their Edwards lime test on the Seelke lease, 3 miles north of Rockdale, are getting ready to make another deep test in the western part of the county north of the Texas and Allen tests.

McMullen County

Sights and others are preparing to test at 2,230 feet in their No. 1 Franklin a few miles north of Tilden, the county seat. George M. Ball in No. 1 Kuykendall, 10 miles northeast of Fowlerton and due west from the Sights test, is drilling at 500 feet and taking cores every 10 feet. That part of the county has seen but little drilling and the frequent cores will be of great aid to the industry. They are being sent to Doctor Uddon, the state geologist.

San Patricio County

John Sigmund is drilling at 3,850 feet in No. 7 McCampbell near Aransas Pass.

Starr County

Dauchy & Bryant are shut down at 1,943 feet in No. 1 Kelsey on Survey 125 in Starr County. O. E. Killam is drilling at 2,000 feet in No. 1 Guerra in Survey 43. Ramsey-Maxey are drilling at 600 feet in No. 1 Kelsey on Survey 73.

Val Verde County

Plateau Oil Co. is drilling below 2,285 feet in No. 1 Harrison in Val Verde County, east of Del Rio a few miles.

GULF COAST FIELDS

(Continued from Page 60)

feet. The Supreme Oil Co.'s No. 1 Gray was abandoned at 1,100 feet.

The Gulf Refining Co. is rigging to drill No. 42 G.N.G. deeper. Locations have been made for Nos. 5 Gray and 42 Vincent. The Vinton Petroleum Co.'s No. 20 Rescue is at 2,810 feet. No. 28 Gray is around 2,545 feet. No. 15 Harmony is at 2,545 feet. A location has been made for No. 17 Vincent. The Edgerly Petroleum Co.'s No. 10 Vincent is at 980 feet. Marrs McLean's No. 11 Gray is drilling around 1,176 feet. The Vinton Oil Syndicate's No. 2 Johnson is at 3,090 feet.

The Gulf Refining Co.'s No. 27 Jennings-Clement, in the Jennings Pool, is heading 200 bbls. at 2,200 feet. Same company will deepen No. 30 Jennings-Clement.

In the Edgerly Pool, the Gulf Refinning Co.'s No. 25 Bright-Penn is drilling deeper at 2,245 feet. The Rex Oil Co.'s No. 3 Hunter, drilling around 1,765 feet. W. B. Drysdale is rigging No. 2 Hill.

In the Lockport Pool, the Vacuum-Gulf joint No. 8 Miller is fishing at 3,866 feet. No. 10 Miller is at 3,234 feet. No. 11 is below 3,065 feet. A location has been made for No. 12. No. 4 Lock-Moore is at 4,765 feet. No. 1 Friedberg & Wolf is around 5,415 feet. A derrick is standing for No. 3 Bordages.

Wells completed during the week total 21, of which 5 were dry and 2 salt water, leaving 14 net producers. The new output uncovered was 3,942 bbls. Nine wells are bailing at the close of the week.

Drilling in the Pools

Drilling wells in six of the most active pools total 79 at the end of the week compared with 63 at the same time last month. Hull shows an increase of 3, Goose Creek increased 2, the deep sand section at Spindletop 5 and Sour Lake 5. Orange increased 3. The Boling Pool shows 3 less wells drilling than at the close of the last week in May.

In the deep sand section on the southeast and north sides of the Spindletop Pool, the Yount-Lee Oil Co.'s No. 6 McFadden is around 2,765 feet. No. 5 Gladys is around 3,000 feet and No. 1 Dabis below 3,090 feet. The Sun company's No. 1 Weed is below 2,875 feet. Gulf Production Co.'s No. 1-A Weed is drilling around 2,985 feet. Hines' No. 1 Quinn is at 2,235 feet. O. Barbee's No. 1 Garrick is at 1,986 feet. Rio Bravo Oil Co.'s No. 1 T. & N. O. R. R. is rigging. Brown Williams' No. 1 Gladys is idle. The Seven Oil Co.'s No. 2 Tremly is at 765 feet.

In the deep sand section on the southwest side at Sour Lake, the Sun company's No. 1 Libbie is around 4,335 feet. Yount-Lee Oil Co.'s No. 1 Lynn is at 2,975 feet. Humphrey Corp.'s No. 1-B Bashara is at 1,355 feet and No. 2 Bashara is around 2,435 feet. Falloure and others' No. 3 Jackson is sidetracking at 3,340 feet. Orange Petroleum Co.'s No. 1 Merchant is below 1,000 feet. J. F. Bashara's No. 1 fee is around 2,175 feet. Peveto Oil Co.'s No. 1 Lynn fee is drilling below 1,235 feet. Gulf Production Co.'s No. 1-D McLean is rigging. On the north side, Lake View Oil Co.'s No. 48 Hardin is drilling around 1,565 feet.

In the deep sand section on the northwest side of the Batson Pool, Capitol Oil Co.'s No. 5 Hodges is drilling below 3,824 feet. In the old part, Gulf Production Co.'s No. 61 Choate is around 1,134 feet.

In the South Liberty Pool, Humble Oil & Refining Co.'s No. 2 Welder, on the west side, is around 3,655 feet. Premium Oil Co.'s No. 1 Mitchell, on the north side, is at 2,765 feet. Coastal Oil Co.'s No. 1 Lecoure, on the northeast, is idle at 2,910 feet.

Harrison Oil Co.'s No. 2 Schlender, on the southwest side of the old Dayton Pool, is nearing 4,000 feet. Sixty cores have been taken in this test. The Poor Boy Oil Co.'s No. 2 Pruitt, on the east side, is around 3,000 feet. No. 1 was abandoned.

At Blue Ridge, the Blue Ridge Oil & Gas Co. has a location for No. 1 Robinson. Abercrombie and others' No. 1 West-Schenck, on the south side, is deepening at 3,200 feet. Gulf Production Co.'s No. 3 Invincible, on the west, is around 2,900 feet, drilling deeper, and No. 7 Blakely is at 3,765 feet.

The Texas Company's No. 4 Abrams at West Columbia is drilling around 2,900 feet.

At Nash Dome, the Rycade Petroleum Corp.'s No. 7 Wisdom is around 1,345 feet and No. 8 Wisdom at 1,564 feet. No. 8 Nash is around 2,545 feet.

Gulf Production Co.'s No. 7 Moore at Orchard Dome is drilling at 1,465 feet.

Goose Creek

In the Goose Creek Pool, the Humble Oil & Refining Co.'s No. 12 Peninsula is drilling around 2,435 feet. A derrick is up for No. 17. No. 22 is below 3,415 feet. No. 68 Smith is deepening at 4,634 feet and No. 69 is drilling at 1,965 feet. Gulf Production Co.'s No. 18 Smith is at 2,675 feet. No. 8 state land is at 3,070 feet. No. 33 Beaumont is around 3,655 feet. No. 7 Wright is deepening at 3,980 feet. No. 12 Chapman-Bryan is around 3,655 feet. No. 6 Hirsch is rigging. Gulf Coast Oil Corp. is rigging No. 9 Galliard to drill it deeper. Powell Oil Co.'s No. 6 Bryan is drilling deeper at 2,890 feet. The M. & B. Oil Co.'s No. 4 Scorrgea, northwest of production, is around 4,265 feet.

At Boling, The Texas Company's No. 8 Taylor is fishing. No. 1 Felder is around 3,565 feet and No. 1 Floyd is

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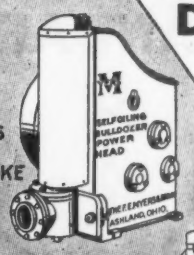

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pulling the screen. No. 2 Floyd is drilling at 2,444 feet and No. 3 is rigging. Oxford Oil-Southern Exploration is working over No. 3 Floyd. Sun company's No. 1 Taylor is milling at 2,800 feet. A derrick is up for No. 6 Taylor. The Humble-Gulf joint No. 5 Hawes is deepening. No. 6 is drilling around 4,870 feet. No. 7 is at 3,986 feet. No. 12 is drilling around 2,750 feet. Derricks are up for Nos. 8, 11, 14, 15 and 16. Vacuum Oil Co.'s No. 1 Hooper is drilling deeper around 5,000 feet, which is the record depth for the pool to date.

Orange and Hull

In the Orange Pool, the Brownie Babbittee Oil Co.'s No. 2 McLean at 3,550 feet. Gulf Production Co.'s No. 23 Lee Jager fee, on the east side of Cow Bayou, blew out late in the week at 4,670 feet. The derrick and drilling rig are buried in a crater 40 feet across and the boiler connections snapped off. The crew escaped injuries. They were fishing for drill pipe when the gas blew out.

Humble Oil & Refining Co.'s No. 25 Chesson "A" has cemented casing at 3,450 feet. The Kishi Development Co.'s No. 7 McGuire is drilling at 3,600 feet. The Orange Petroleum Co.'s No. 3 Winifree is drilling at 2,660 feet; No. 12 Chesson "A" is pumping 12 bbls. at 4,326 feet. The Rycade Oil Corp.'s No. 5 State "B" is drilling at 3,400 feet; No. 10 is drilling at 3,750 feet. Supreme Oil Co.'s No. 1 Jackson is milling at 2,715 feet. Texhoma Oil Co.'s No. 6 Chesson is drilling at 3,400 feet; No. 9 and No. 14 are shut down. Gulf Production Co.'s No. 11 Kishi-Lang "A" is drilling at 3,900 feet; No. 4 Lee Hager fee is drilling at 4,150 feet; No. 23 is drilling at 4,600 feet; No. 6 Winifree fee is drilling at 1,500 feet; No. 2 Briggs-Moore is drilling at 4,150 feet.

In the Hull Pool the Republic Production Co.'s No. 132 and No. 133 are locations; No. 126, drilling at 550 feet; No. 128, drilling 2,250 feet; No. 131, at 2,350 feet. Humble Oil & Refining Co.'s No. 21 Guedry is a derrick; No. 23, drilling at 2,800 feet; No. 6 Guedry, at 750 feet; No. 5 Merchant, location; No. 1 Bevers, rigging up; No. 1 Lynd, drilling 1,350 feet. Mecom Oil Co.'s No. 9 Taylor, drilling 1,000 feet. Empire Gas & Fuel Co.'s No. 20 Barngrover and No. 21 are locations. The Texas Company's No. 1 Hannah, shut down at 3,850 feet; No. 1 Hannah fee, drilling 2,150 feet. Gulf Production Co.'s No. 18 Scarborough is rigging up; No. 18 J. C. Baldwin, drilling 1,900 feet; No. 68 Phoenix, drilling at 3,150 feet; No. 69, drilling at 1,800 feet; No. 70, location; No. 19, drilling at 3,100 feet; No. 17, rigging up to deepen; No. 18 David Hannah fee, drilling at 450 feet; No. 9 W. L. Thomas fee, drilling at 3,400 feet.

Coastal Wildcats

The Humble Oil & Refining Co. abandoned No. 1 Sabine Tram in Newton County at 4,240 feet.

The Texas Company quit No. 1 League, 10 miles east of Barber Hill in Chambers County, at 1,145 feet.

In Angelina County the Flanigan Drilling Co.'s No. 1 at Lufin is shut down.

The Valley Oil Co.'s No. 1 Thompson, Austin County, is drilling around 600 feet.

Roxana Petroleum Corp. is drilling Nos. 2 Clemens state prison land and No. 2 Allen, in the southern part of Brazoria County, around what are presumed to be new domes.

The Benedum & Trees Co.'s No. 1 Kennedy, south of Harmaston, Harris County, is drilling around 1,100 feet. Kane Exploration Co.'s No. 3 Foster, near Huffman, is around 1,600 feet. Kelly and others' No. 1 Lipper, near Aldine, is at 1,270 feet. The Brane Oil Co. has a location north of Spring.

Humble Oil & Refining Co.'s No. 1 Weiss, between Batson and Sour Lake in Hardin County, is drilling below 2,900 feet.

In Jefferson County, the Gulf Production Co.'s No. 2 Bordages, Fannette Dome, is drilling below 3,685 feet and No. 7 Thomas is rigging. At Big Hill Dome, the Houston Oil Co.'s No. 1 Pipkin-Davis is around 2,985 feet. No. 2 Sun-Dyson is showing some oil at 945 feet. Port Arthur Development Co.'s No. 3, near Westburg, is around 2,295 feet.

The Sun Oil Co.'s No. 3 Masterson at Felcia, in Liberty County, is drilling below 1,700 feet. George Leland is rigging No. 2 Grogan Lumber Co. lands, 14 miles north of Dayton.

Around the Hawkins Dome in Matagorda County, the Gulf Production Co.'s No. 4 Craig is idle at 3,300 feet. Same company's No. 1 Sanborn is below 2,715 feet. No. 1 Parkinson is below 780 feet. Shepherd Mott Oil Co.'s No. 2 Hawkins is at 3,155 feet. At Van Vleck, in the southeastern part of the county, the Gulf Production Co.'s No. 1-A Turner is at 355 feet and the Humble Oil & Refining Co.'s No. 1 Robbins is rigging. The Rycade Petroleum Corp.'s No. 2 Kountz at Markham is drilling around 1,015 feet. Houston-Gulf Gas Co.'s No. 1 Kountz, 2 miles west of Markham, is rigging.

In Wharton County, the Ingram Prospecting Co. is rigging No. 1 Kastelbrik.

The Houston Oil Co. abandoned No. 1 Park, Goliad County, at 4,010 feet.

South Louisiana

The Sun Oil Co. is rigging No. 1 Peterson in Cameron Parish in the Johnson Bayou area.

E. Hornberger is starting No. 1 Buller in Jefferson Davis Parish.

In Iberia Parish, the United Oil & Gas Co.'s No. 2 Salt Mine, Jefferson Island, is drilling around 1,236 feet in sandy shale showing gas.

OKLAHOMA FIELDS

(Continued from Page 50)

NW, Section 27-20-7. Holmes and others' No. 3 Stoneman, SE cor. SE, Section 28-20-9. had sand at 2,680-86 feet and made 20 bbls. naturally.

Pontotoc County

American Oil & Refining Co. has a dry hole at 2,413 feet in No. 1, C NE NE, Section 9-4-6. American Supply Co. is drilling at 450 feet in No. 1 Davis, SW cor. SE SW, Section 11-4-7. Hughes and others have spudded No. 1, NE cor. SW NE, Section 28-4-7. Bingham and others' No. 1, SW cor. NE NW, Section 31-4-7, is dry at 1,430 feet. Jack Lloyd and others' No. 5, NW cor. SE NE, Section 6-3-7, is dry at 1,280 feet. The Carter Oil Co. has a rig on the ground for No. 1 Wren, SW cor. NE, Section 18-3-4.

Seminole County

Sinclair Oil & Gas Co.'s No. 9, SW cor. SE SE, Section 33-11-18, Seminole County, is drilling at 1,000 feet. Lennox Oil Co. has a rig on the ground for No. 1 Henderson, NW cor. NE, Section 3-11-9. Independent Oil & Gas Co.'s No. 1, NE. cor. NE, Section 25-11-9, is shut in with 25,000,000 feet of gas from sand at 3,165 feet. Mid-Kansas Oil & Gas Co.'s No. 1, NE cor. NE NW, Section 35-11-9, is spudded. Prairie Oil & Gas Co. has rigged up No. 1 Berryhill, SE cor. SW, Section 26-11-9. Minnehoma Oil Co.'s No. 1, NE cor. SE, Section 17-10-9, had sand 3,271-94 feet with 103,000.-feet of gas.

Magnolia Petroleum Co. is drilling at 1,450 feet in No. 2, NE cor. SW, Section 5-7-8. No. 4, NW cor. NE NE, Section 6-7-8, had sand at 4,105-4,108 feet, and made 1,270 bbls. the first day.

Dixie Oil Co.'s No. 2, SE cor. NW NE, Section 6-7-8, is dry and abandoned at 3,228 feet. Barnsdall Oil Co. has spudded No. 1, NE cor. NW, Section 14-9-5. Mid-Continent Petroleum Corp.'s No. 1, SE cor. SE, Section 14-9-6, is spudded. The Carter Oil Co. has completed a gas well in No. 1, NW cor. SW, Section 35-9-6. Indian Territory Illuminating Oil Co. has spudded No. 1, SW cor. SW, Section 13-8-6. No. 1, SW cor. NE, Section 15-8-6, is a gas well with 10,000,000 feet of gas from sand at 2,467-80 feet. Shaffer Oil Co.'s No. 2, SE cor. NE NE, Section 18-9-8, had sand at 3,302-32 feet and made 100 bbls. after a shot of 30 quarts. Magnolia Petroleum Co.'s No. 2, SW cor. SE, Section 14-8-7, is drilling at 550 feet. Mid-Continent Petroleum Corp.'s No. 1, NW cor. NE, Section 23-8-7, swabbed 47

(Continued on Page 123)

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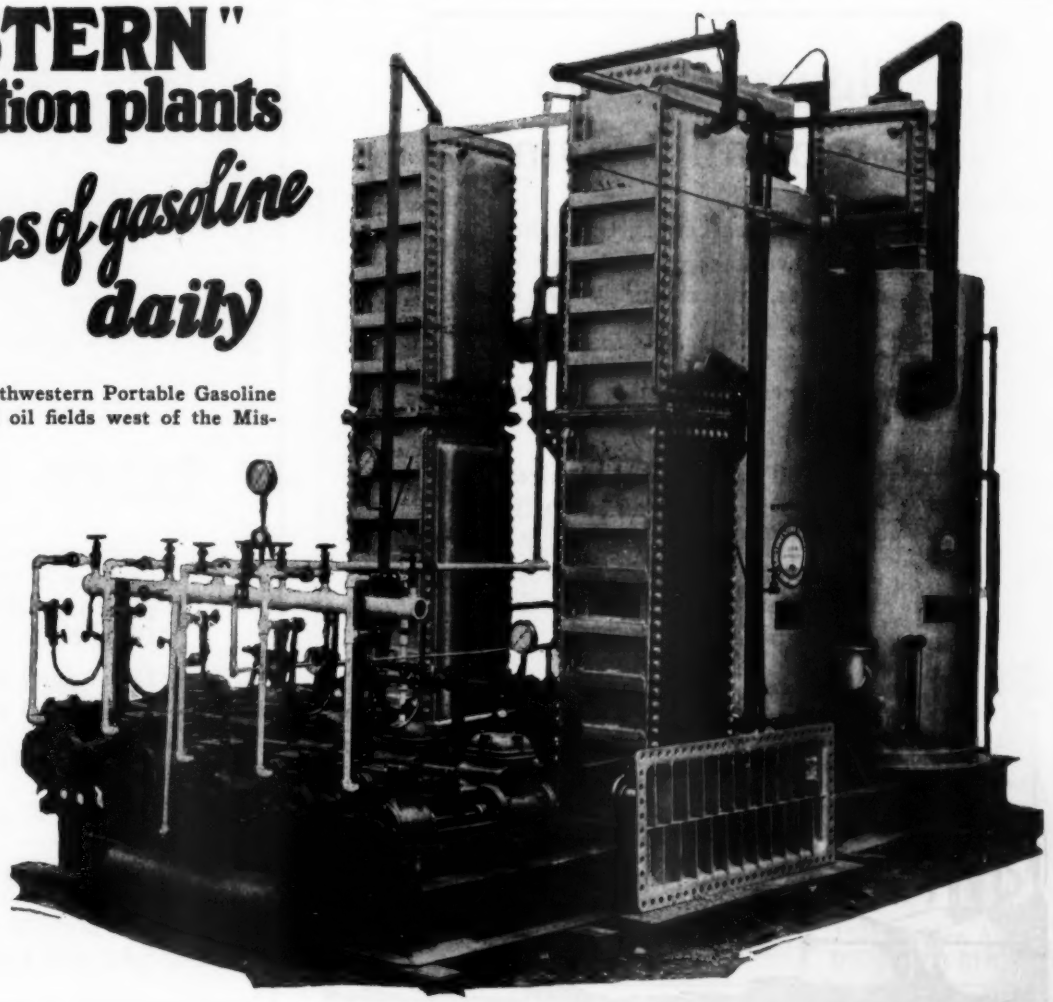

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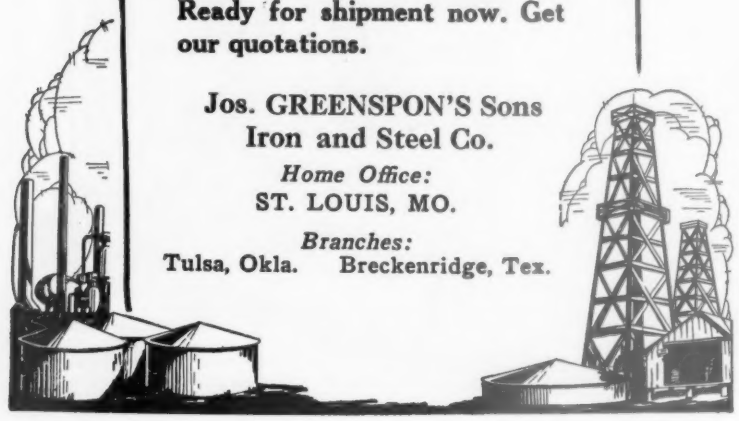

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HIGH COMPRESSION ENGINED MOTOR TO PUT PRESSURE ON OIL INDUSTRY

By L. M. Fanning
New York Bureau, The Oil and Gas Journal, Room 543, 30 Church St., New York

The high compression engined motor car is just around the corner In fact, in the opinion of those who are closely following automotive engine developments and their possible effects on motor fuel utilization, the high-compression car is right on top of us.

Already one or two manufacturers have announced for this year new models somewhat on the European type of car, with high speed, high compression mechanism. which will materially cut down usual gasoline requirements.

It is well known that for the last few years automotive engineers have recognized the importance and possibilities of developing cars of higher compression ratios, and it is now evident that the concentrated efforts of its technical skill has prepared the industry to put forth such changed models whenever it became convinced that a suitable fuel was available in sufficient quantity and that wide distribution of such fuel could be assured.

The hesitancy which has been apparent for some time in the automotive industry in taking a step having some decidedly radical elements, is still officially present. It is not expected that the industry will change to high-compression cars in a day and announce such a development in one blast of publicity. Present engine types have to be protected. But a change in engine compressions does not necessarily mean a new type of car.

Compression is a matter of degree, and it is now believed practically assured that some of the most important manufacturers will have on the market this year and next in their popular priced models, cars with engines of higher compression than present similar types. Already this tendency has been noted in one or two important cars.

Automotive experts who have been particularly skeptical as to whether the oil industry is prepared to supply a suitable fuel for internal combustion engines of higher compressions are now understood to favor the scaling up of the ratio. They still profess to see difficulties as regards universal distribution of the fuel which they declare essential in putting out cars which have national distribution, but it is stated that they are now willing to make the change as a means of "putting a little pressure on the petroleum industry."

This decision has important potentialities with respect to the character of gasoline marketed, and the movement is one of the most significant in recent years in its relation to the conservation of gasoline—and, therefore, of crude oil—through more efficient utilization.

The radical elements in the change in compression ratios, so far as the automotive industry is concerned, is in the introduction of high-compression engined, small cars of entirely new model, along the type of European cars. The introduction of such cars involves serious consideration from the standpoints of manufacture and sales of present low priced car types with which the new type will compete.

Already at least two manufacturers have announced high-compression cars of this character for this year. A Toledo maker is introducing a new midget type of motor car built on the lines of European design, which will be offered on the basis of economy in size giving greater parking facility and general mobility that the big cars do not possess and giving fuel economy through a high-compression engine.

It is interesting to note that in this design and others that are in preparation for 1927, the company lets it be known that it will strive to raise the small type of car to the level of the medium priced and high priced makes in engine performance, quality of component parts and durability. The new trend, it is stated in automotive circles, will affect the four-cylinder field.

For the present the wheelbase of 100 inches common to the present small car will be adhered to, as will likewise the 56-inch tread which is standard on all cars. The European types which the American designers are now to try to imitate are built as short as 75 and 78 inches, with tread of 46 inches.

It is stated that this new small car for America will preserve the practical features of the European models and adapt them to performance which the motoring public here has been educated up to. The engine capability will be notched up to a new position of flexibility. It will be produced from high speed, high compression mechanism, that will approach 60 miles an hour maximum and give quicker getaway.

A New York manufacturer is putting out what is termed the first of the "pony" cars, which is unique, if not radical, in design and which embraces the high-compression engine feature. This car is for two or four passengers, open or closed model. The body is mounted on a 98-inch wheelbase.

The car is powered by a light, high-speed, 4-cylinder engine with a 2½-inch bore and 5-inch stroke with 10 rated horsepower, but developing 32-brake horsepower at 2,800 r.p.m.

It can be seen from these announcements that talk of an American-built light car, which has been intermittently credited in the automotive industry for some time only to prove inaccurate, is now taking substantial form. "Light car" is not an entirely accurate descriptive term, but usually refers to jobs of the 6 to 12-horsepower type common in some European countries.

An interesting feature of the first announcement is that the European models are not being exactly imitated. An authority on the automobile connected with one of the oil companies points out that the general belief that the European automobile is more efficient than the American, is untrue. The European type of passenger car does cost less to operate if the first cost be neglected, he points out, but it is less powerful, less comfortable and less convenient.

If the American automobiles had never developed beyond the standards of performance and comfort of the European, he says, its use in America would not have been nearly as great, and the few attempts which have been made heretofore to introduce European type of small car in this country have been conspicuously unsuccessful.

It is noted that the new type to be introduced will attempt to give the driver the flexibility he has in present cars but at the same time will give greater fuel economy. This latter is the point that is of principal interest to the oil industry, and the public reception of any of these new models will bear close watching.

There is general recognition of the trend toward lighter cars. This is particularly true as regards future markets in congested centers. Automobiles in cities do not usually make long runs but in the short and frequent town runs, where traffic is heavy and frequent stops and starts are made, the gasoline consumption is relatively high as compared to long, uninterrupted trips. The light car affords fuel economies and is more adaptable for parking, which is now a major consideration.

It may be offered, therefore, that the field for the high-compression type cars will be predominantly at present and for some little time in the congested centers. As confirmation of this, there is another trend of equal significance to the ones already mentioned.

The petroleum industry generally is probably unaware of the movement now going on in converting present engines to higher compression types. This is particularly active in the Chicago district and applies mainly to taxicabs, buses and trucks. It is understood that fleets of these vehicles are being remodeled as to the engine by a simple cutting down of the cylinder head. thus reducing the size of the compression chamber and accomplishing higher compression. This is being done for the purpose of effecting savings in gasoline consumption, and it is made possible by the marketing of a motor fuel suitable for high-compression engines.

This movement is of importance in two respects. First, taxicabs, buses and trucks are the largest unit consumers of gasoline. Second, it illustrates the point that the high-compression engined motor vehicles will probably see their greatest initial gains in congested centers and in this connection the distribution of suitable fuels by the petroleum industry is practically an accomplished fact.

As regards effect on future consumption, it is interesting to note that taxicabs are insatiable when it comes to fuel. An executive of New York City's largest taxicab company reports that 46,000 miles is the annual average of his firm's machines. Independent drivers average as much as 60,000 miles. Taxis are in use day and night, and when they have not a definite destination they are cruising. The ordinary family car averages 7,000 or 8,000 miles during the year.

Buses are large gasoline consumers, and it is conservatively figured that the 70,000 buses in the United States use as much gas annually as 700,000 passenger cars. Bus consumption runs from 4,000 to 10,000 gallons a year. Last year buses covered 1,900,000,000 miles, and this is one of the most rapidly expanding fields of automobile use. Trucks are also large unit consumers of gasoline, averaging over 1,000 gallons each, annually. There are nearly 2,500,000 trucks now in use in the United States, with the use also greatly expanding.

High-compression engines, and resultant fuel economies, in these vehicles, may materially offset the increase in gasoline consumption due to the increase in the number of such cars in operation.

Suitable gasoline for engines of higher compression is being obtained in several ways. Mixtures of benzol and gasoline, gasoline doped with tetraethyl lead, antiknock and high test gasoline mainly derived from cracking, and gasoline from special California and other crudes, are the principal sources. The development of fuels of antiknock value is one of the most important advances made by the petroleum industry and it has come along rapidly in the last year or so.

Competent authorities state that of the cracked gasoline now being produced a large proportion is suitable for use in engines with considerably higher compressions than the normal. The difficulties surrounding the use of lead in gasoline are being removed, the Ethyl Gasoline Corp. is working to eliminate exclusive contracts in the marketing of tetraethyl lead in the future with a view toward more complete coverage in national distribution and this high-compression engine fuel will be widely available as manufacturing facilities are increased.

Meantime, distribution of suitable fuel in congested centers is being made by practically all the oil companies, while many are going forward with complete coverage plans, if they have not already accomplished this.

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Underwriter Brainard Ranch oil and gas leases, 25,000 acres in Hutchinson County. Hutchinson County is the major producing area. New 5-year leases from 20 acres to 160 acres. Bought right can sell at reasonable price per acre. Write for map and prices. I have handled, as underwriter, over 60,000 acres in the field on which over 80 wells are now drilling or producing. Ed R. Mayer, Amarillo Hotel Bldg., P. O. Box 1186, Amarillo, Tex.

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HELP WANTED

WANTED—Dubbs cracking plant operators who are familiar with large units and reflux pumps. References required. Advise age and experience. Root Refineries, Inc., El Dorado, Ark.

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Have 40-acre tract between production in Cross Cut Field. Will drill and equip. Bottom hole money. F. J. Smith, Box 84, Putnam, Tex.

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WANT TO BUY—Fifteen to 25 bbls. oil production in shallow field with some undeveloped acreage. Write box 562, Parkersburg, W. Va.

WOULD LIKE to raise money on proven shallow property. Write William Mendelin, 5440 Michigan Ave., Chicago, Ill.

PROMOTER looking for something good in oil development. Write Box B-362, The Oil and Gas Journal, Tulsa, Okla.

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To correspond with capital interested in making a fortune by financing wildcat well now down nearly 2,000 feet. Located 3 miles from railroad on paved highway. Yuma, Arizona. Fine oil showings. Rotary equipment installed ready to go.

Splendid geological reports. Shallow water well near by has produced several barrels fine oil.

Several thousand acres under lease. Will make attractive proposition, giving large block of acreage for completion of well. Address B. W. Sinclair, 3316 Fourth St., San Diego, Calif.

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WANTED—Several first-class drilling block by reliable parties; in Oklahoma, Texas or Kansas, must have good geology and stand close examination. Send full details together with maps and geology in first letter. Address Box 1327, Bartlesville, Okla.

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Chicago Jobbers Are Unwilling to Buy

Price Situation Uneven and Unsatisfactory to All Parties. Gasoline Bought Earlier Still Congesting Storage

By J. B. Waldo

CHICAGO, June 26.—Although this has been a lively city during the week, the oil markets have not had their share of the activity. It would be impossible for such a great gathering to be held in any city without making a serious interruption to the ordinary course of affairs but it is not possible that the disturbance in local business and daily life is accountable for the lack of demand for petroleum products. We have had fine weather, a little too cool for active motoring at nights but still very favorable weather with only one local shower to mar the weather provided for the International Congress, yet the demand for tank cars of any product has been quiet. There has been some complaint from the northern parts of the territory regarding the lack of tourists but this is not justified. The touring season does not really begin until the close of schools which took place in this city on yesterday.

The real trouble as many oil men see it, is that the jobbers bought largely early in the season when prices were beginning to advance, and were expected to go still higher. This gasoline has been shipped and received but it is to a large extent still in the jobbers' tanks. Every tank car shipped from a refiner's storage is destined for a tank at the other end of the passage and does not necessarily have to be consumed simply because it has left the refinery. Lack of knowledge of the amount of gasoline in the storage of the jobbers is the one thing that upsets many a forecast of the market and there seems to be no good way of securing any accurate data. But it is evident that shipping from one storage to another cannot continue uninterruptedly unless that second storage is being steadily emptied. This has not been the case at least with many distributors and the result is that they claim to have enough gasoline on hand to last them for some time. Have they? Time will tell, but an accurate answer to that question would help a lot right now.

Travelers, salesmen, sales managers and refiners, who have been out in the various states tributary to the Chicago market, state with no exception, that the consumption of gasoline has been less than planned for and that as a consequence almost every distributor has some gasoline, in some cases more than they can readily take in, some having cars on track on which they are paying demurrage. This condition would make the jobber unwilling to buy right now and there are other reasons why he is reluctant to place orders. One of these is that the market has been a declining one all of this month and just as the refiners have in several instances been anxious to sell for fear they would not be able to get as good a price tomorrow the jobbers have been unwilling to buy while prices were so unsettled and might be lower. The result has been a pressure to make sales when the usual buyers were unwilling or did not need to buy, on account of supplies on hand.

Price Uneven

The price situation under such conditions has been uneven, not to say unsatisfactory, to all parties. The jobbers have no real interest in lower prices. The wide-awake ones know that the refiner must have his fair price if he is to remain a source of supplies of gasoline and other products and they also realize that excessive margins between the tankwagon or station prices and the refinery costs are unsettling and have proved one of the worst detriments to the industry. Yet at the same time a jobber cannot pay materially higher prices for the gasoline that he must sell in competition with that purchased at a lower price than his own supply.

The most quoted price for Navy gasoline during the week has been 11½ cents and there have been some sales made right along by those who have held to this price but there has been a very considerable movement just how large it is hard to say, at less than 11½ cents. Most of this has been at 11¼ cents and some, not much, at a little less. Jobbers claim they are offered Navy gasoline at 11 cents by refiners but they do not always verify the fact, still the concerns that have held to the 11½-cent price do not seem to have done as much business as those that shaded this figure. The takings on contract have not been good, another evidence that the jobbers are either holding back their orders because of large supplies or are filling their immediate requirements at less than the contract based on the takwagon calls for. There is a good deal of complaint regarding slow collections and some of the best known concerns whose credit is above par have asked for 30 days' extension simply because they have not moved the gasoline bought earlier in the season and still held in their storage.

The demand for the higher tests is not large. The Texas Company has bought some 60-62 400 for export, it is stated, a 100-car order having been placed here. Generally the export buyers do not seem interested in the market. Natural gasoline is dull and the quotations made by refiners have shown a decidedly weak tone to the situation. There has been some buying of gasoline for the July 4 holiday, which practically will take three days beginning one week from today. But not so generally as was hoped for, although it is believed that the business of that holiday will bring about a larger demand from jobbers as it is always a day when much gasoline is used and, coming on Sunday, it will be made the most of. All are hoping that the present clear weather will continue at least until then.

Kerosene Easy

Kerosene is easy in tone and in only routine demand. Usually the first part of July brings some increase to the demand but it is felt that so many jobbers have large supplies, bought when the rush was on but not received in many cases until later, that this demand may drag along and not help the situation very much. Sales have been made at 6¼ to 6½ cents and some have sold at 6 cents on the theory that they could cover at that price before the time of shipment came around. There is little call for the 42-44 gravity, which is only nominally quoted at 7 cents.

Distillate Quiet

Distillate is very quiet. The warm weather has put an end to the last lingering demand from consumers so that any sales now being made are for some other use or to be held for the coming season. There is a great deal of talk regarding high prices for next season but the general impression is there will be no such extravagant figures made as have been talked around. The tankwagon price quoted by the Standard Oil Co., in this city, will make it impossible for the distributor to do business and pay any fancy prices for distillate. It is admitted there will be some advances and refiners are also in several cases revising their first views as to the price they thought the product should bring them.

When the gasoline demand slackens with the advent of the cooler weather, not so far distant now that it must not be recognized as a trade factor, the refiners may be more anxious for this distillate business than they were at the time when the gasoline demand in their opinion threatened to tax their resources and equipment. Refiners are as yet unwilling to name prices or to contract for the coming season on anything but a quantity basis, that is they will agree to supply a certain quantity at the market price, date of shipment. Of course there is a lot of figuring regarding the comparative stocks on hand at the beginning of last season and the expected supplies at the beginning of this coming period and these point to the possibility of the stocks being much smaller than a year ago, but the average jobber is still trusting to the "jobbers' luck" which seems to be better than that of the refiner most seasons.

Gas Oil Firm

Gas oil is rather firm at 4 to 4⅛ cents for any kind of gas oil. If light, overhead gas oil is wanted the price is materially higher and supplies scanty. There is some talk of the jobbers buying for storage but so far there is little evidence that they are doing so. The price is too high for one thing. They figure that the demand for cracking will drop off shortly and then they will be able to get a better price than they can today. The industrial demand is fair. Gas companies are not buying heavily but some are taking in supplies on contracts which have a price better than the present market.

Fuel Oil Situation

Fuel oil is being offered here by several of the Middle West refiners at prices that to some of the dealers suggest that they are determined to move their stocks. Sales are reported by a leading refiner at $1.20 for a regular 24-26 fuel oil and this price is being quoted on all grades below that gravity. Smackover is steady to firm and while some oil is being sold at a little less than $1.20 it is under exceptional circumstances where a customer is wanted badly and a low price is made to start the account or some similar reason. As far as can be learned here, the production and demand for Smackover crude is pretty evenly balanced right now. Reports as to the newly discovered fourth sand are none too favorable and the showing to date is not thought to promise any flood of crude to unsettle that market.

The industrial buying is steady but as a rule for immediate requirements. Two large contracts have been renewed this week that with the International Harvester and the Interstate Iron & Steel Co. The prices have not been made public but the understanding is that in both cases the prices made are a little more favorable to the sellers than the contracts which had expired. The contracts were for the requirements for one year. The Henry H. Cross Co. renewed the Harvester contract and the steel company's contract is reported to have been secured by Gustafson & Co., in connection with the Cross Co. Buyers are still threatening to turn to coal or gas. An official of the Peoples Gas, Light & Coke Co. stated that four of the leading brick companies of Cook County, were now using gas for the manufacture of brick. He also stated that some of the gas mains now being installed were eight feet in diameter and that "gas was the coming fuel." The statement was also made that upwards of 1,000 homes in Chicago district were now being successfully heated with gas. The feeling here is that the accumulation of fuel oils is becoming something of a burden but it might be stated that stocks of fuel and gas oils east of the Rocky Mountains have been drawn on during the first four months of the year and at the close of April were slightly less than a year ago at this time so that the burden should be no larger now than it was a year ago.

Lubs Steady

Lubricating oils have shown no change here and are stated to be moving steadily and many refiners continue to report that they are sold ahead for the time being. The demand for motor oils is rather better and the industrial lubricants are moving right along.

Jobbers the territory over, judging from statements made at the various state meetings, are having a good, steady trade. There is nothing exceptional doing they say, just a steady business. Some of the large distributing companies with offices in this city while claiming to have done a good business admit that the volume both on Decoration Day and since has been disappointing failing to show the increase expected over last year. They uniformly attribute this condition to the weather. There is little heard regarding price cutting but there are several sore spots in the territory where local conditions and extreme competition have resulted in price cutting. Chicago has a number of price cutters among the garages and filling stations and the spread is indeed wide enough to permit of such cuts.

The Standard Oil Co. of Indiana has set at rest many rumors that it proposed to do away with its Q. D. A. plan and other rumors that it was to increase its quantity discounts. It announces that it will renew its Q. D. A. contracts as before with the change that each contract will contain a 10-day cancellation clause under certain conditions. Of course the company is not renewing its contracts as to Wisconsin with the intercity feature.

There is a feeling that the next week or ten days will tell the story as to gasoline business for this season. Schools are now closed and the Fourth of July holiday with its three days of liberty to seek the open spaces as they say, is at hand. Good weather is expected, or hoped for. It is believed that with good weather there will be a greatly increased movement of gasoline and if stocks are not too excessive they will be depleted to a point where it will be possible to hold for fair prices over the remainder of the season. The summer will be short but some times a poor spring from the motorists standpoint, is made up for by a long and delightful autumn. This may be the good year, not a factor to gamble on by running more crude but to be hoped for.

FREIGHT RATE ON CAMP OUTFITS UNREASONABLE

By Charles E. Kern

WASHINGTON, D. C., June 28.—In the case of the Standard Pipe Line Co. of Louisiana vs. Texas, Pacific Railroad Co. and others, the Interstate Commerce Commission has decided the rates on camp outfits in carloads between points in Louisiana and Arkansas are unreasonable and reparation has been awarded. The complainant alleged that charges collected on four carloads of camp outfits shipped between September 11, 1923, and May 14, 1924, between points in Louisiana and Arkansas were unreasonable, unjustly discriminatory and unduly prejudicial to the extent that they exceeded and exceed the class A rates subject to the western classification and contemporaneously maintained on contractors' outfits.

DEVELOPMENTS IN EAST FAVORABLE; CONSUMPTION HAS HELD UP WELL

By N. O. Fanning

New York Bureau, The Oil and Gas Journal, Room 543, 30 Church St., New York

NEW YORK, June 26.—Principal developments in the oil situation on the Atlantic Coast were favorable during the past week. It has been learned that consumption of gasoline has held up unusually well throughout the spring despite the unfavorable weather. The latter has merely served to restrict consumption below what the oil trade could otherwise have enjoyed. The prospects now, however, are for more seasonal weather, with plenty of sun and heat. If these are borne out, there will be an unprecedented consumption of gasoline, according to the belief in the trade, and this in turn will result in a temporary pinch and higher prices.

That eastern marketers, who include some of the leading refiners here also, are expecting a distinct improvement in consumption is indicated by largely increased receipts of oil during June. It is yet too early to say whether these receipts will exceed those of June, 1925, or March, 1926, which were record months to date, but probably they will. It is said to be the policy of some eastern refiners to replenish their stocks of crude during June, which is a favorable month for ocean traffic. The gain in receipts can be looked upon, therefore, as partly seasonal.

One marketer states: "I think the problem this summer will be that of meeting the demand for gasoline without an undue advance in prices, rather than of finding a market for the greater supply brought about through the general practice of cracking. One of my reasons for this belief is that with unfavorable weather so far this year consumption has, in most sections, outstripped that of a year ago, during which period the weather was consistently favorable for consumption. The trade does not yet know what the demand will be when hot weather and the real vacation season arrives."

Service Station Situation

Price cutting at service stations continues on a rather wide scale. A medley of prices are quoted, and the number of new stations going up indicates that expansion in this direction has not yet reached its peak.

Students of the situation who emphasize the difference in gasoline retail prices as a weak symptom, however, do not take into account fundamental changes affecting these prices. In the first place the margin between wholesale and retail prices in the territory comprising New York and New England, has steadily increased, now amounting generally to 4 cents a gallon, compared with 1½ to 2 cents a few years ago. This naturally allows more leeway for individual station owners than they had formerly. It can be said that the number of stations that are satisfied with less than the 4 cents is in the minority.

In addition to the wider margin between wholesale and retail prices, indirect concessions are given in some cases which gives the retailer still further independence in the fixing of retail quotations.

Still another factor is the fact that a comparatively small number of companies handle the bulk of the business. The writer counted in the vicinity of New York 50 stations, of which 38 sold the product of one company, and the number of pumps at these 38 stations outnumber those at the remaining 12 by a still greater margin.

The summary of the situation is that while competition is keen, it is not of a destructive, cut-throat nature, and is not of a degree which would adversely affect prices.

Kerosene Unchanged

The kerosene market is unchanged. Consumption is holding up but some refiners anticipate weakness in sympathy with the Gulf and Mid-Continent market.

The fuel oil situation remain about the same as last week. Prices have undergone no change. Demand for bunker fuel oil is better. Advances in Diesel oil and gas oil made recently are being well maintained.

Lubricating Oil

A distinct improvement in industrial demand has helped the lubricating oil market considerably. Cylinder stocks are getting most of the benefit. Large orders for cylinder oils, bright stock and white neutral are reported. Prices have held steady. Red and pale oils are somewhat soft.

Petrolatum

The petrolatum trade has been cheered somewhat by a better demand for dark green. Other grades, however, are still dormant, and prices still rest at the bottom.

Export Market

The oil export market at New York appears to be quieting down somewhat. Bulk shipments are becoming less frequent. In fact all divisions are reported to be suffering from a temporary lull, after a period of heavy shipments.

The chief feature of the kerosene export market during the week was the shipment of approximately 1,000,000 gallons in cases to Hankow, China, by way of Shanghai.

The following table shows principal exports of petroleum and petroleum products from New York reported during the last three weeks (figures in gallons unless otherwise noted in parentheses):

	Week Ended		
Gasoline:	June 23	June 16	June 9
Barrels	401,000	.....	.....
Cases	1,075,990	1,915,880	2,256,146
Kerosene:			
Bulk	.....	.....	806,377
Cases	1,763,940	1,356,800	2,795,450
Gas oil:			
Bulk	.....	.....	746,638
Lubricating oil:			
Bulk	1,112,643	.....	.....
Barrels	1,043,700	1,598,300	1,345,350
Cases	382,530	283,300	287,770
Lubricating grease:			
Barrels (lbs.)	437,400	663,300	740,250
Paraffin wax:			
Bags (lbs.)	759,440	1,971,640	2,748,900
Barrels (lbs.)	330,600	.....	901,550
Petroleum asphalt:			
Barrels (lbs.)	.....	3,301,725	3,260,700

The foregoing shipments include lots of 500 bbls., 1,000 cases, or more.

Tanker Charters

The tanker charter market continues active. Rates are holding firm. The California trade is the most active.

New fixtures include the following:

Tanker Tuxpanoil (Am.), 4,398 tons net, two trips, gas oil, California to north of Hatteras, 77 cents, second half July loading.

Tanker Shreveport (Am.), 4,099 tons net, California to north of Hatteras, 78 cents, July loading.

Tanker Agwiworld (Am.), same, August loading.

Tanker Goldenfjord (Nor.), 5,580 tons net, 12 months time charter, 7s., option of additional 12 months, January delivery.

Tanker Lumina (Br.), 3,732 tons net, north of Hatteras, to one port, west coast of Italy, 27s., option Gulf loading, 30s., August-September.

Tanker F. H. Wickett (Am.), California to north of Hatteras, 80 cents,, July loading.

Oil Receipts Gain

Receipts of crude and refined oil at Atlantic ports by water for the week ended June 23 are estimated at 4,943,000 bbls., a daily average of 706,000 bbls., compared with 3,217,000 bbls., or 460,000 bbls. daily, the preceding week. These are the second largest weekly receipts on record, the record being 5,727,000 bbls., or 818,000 bbls. daily, for the week ended July 1, 1925.

The following table shows estimated daily average receipts of crude and refined oil by water at Atlantic Coast ports from the Gulf and Pacific Coasts of the United States, and imports, for the past three weeks; also monthly record for the past 12 months (figures in barrels):

	Week Ended		
	June 23	June 16	June 2
Gulf	423,000	279,000	389,000
Pacific	139,000	60,000	116,000
Imports	144,000	120,000	152,000
Total	706,000	459,000	657,000

Daily Averages by Months

1926:	Gulf	Pacific	Imports	Total
May	318,000	66,000	139,000	523,000
April	326,000	92,000	146,000	564,000
March	317,000	97,000	178,000	592,000
February	332,000	73,000	122,000	527,000
January	279,000	59,000	96,000	434,000
1925:				
December	298,000	56,000	103,000	457,000
November	259,000	36,000	92,000	387,000
October	249,000	36,000	102,000	387,000
September	306,000	66,000	76,000	448,000
August	291,000	54,000	90,000	435,000
July	391,000	63,000	107,000	561,000
June	379,000	66,000	118,000	563,000

The foregoing estimates are based on the carrying capacity of incoming oil-laden tankers.

Sale of Navajo and Ute Leases Brings to Indians $64,900 Bonus

SANTA FE, N. Mex., June 26.—The auction sale of leases on the Navajo and Ute reservations resulted in the disposal of 27,460 acres at a total bonus price of $64,900.

The Petroleum Security Co. of Los Angeles bought four 640-acre tracts, paying respectively $5,100, $1,500, $3,300 and $3,300 for the leases.

The Santa Fe Oil Co. and the Continental Oil Co. bought three 160-acre tracts and one 200-acre tract for a total bonus of $21,000. The 200-acre tract went for $8,500.

The Marland Oil Co. of Colorado bought a 4,800-acre tract on the Chimney Rock structure, north of Hogback and northeast of Rattlesnake Dome, for $16,500.

Eugene A. Stephenson of Pittsburgh, Pa., got 3,120 acres on the Tabiata structure for $5,100; T. M. Quebedeaz of Santa Fe paid $3,100 for 3,800 acres on the Royal Arch structure in northeastern Arizona; James I. Harvey of Wichita Falls, Tex., paid $1,000 for 3,200 acres on the Little Shiprock structure.

A total of 9,300 acres of leases on the Ute Indian reservation was offered.

Henry G. Coors of Albuquerque, N. Mex., bid in tract "C" of 4,800 acres for $1,400, and F. D. Wells of New York took tract "D" of 4,500 acres for $1,400. The Ute acreage is adjacent to a big gas field, where one well is making 70,000,000 feet of gas a day. Three wells are drilling there on acreage sold at the first Ute sale held at Durango, Colo., in June, 1924.

SHREVEPORT MARKET REMAINS IN SLUMP

SHREVEPORT, La., June 26.—Shreveport's refined market remained in the slump it was thrown into more than two weeks ago and practically every refiner reported products moving slowly. U. S. Motor gasoline in most quarters found a soft market and its price has been pared fractionally as a result of stiff competition from other market territories.

Grade C natural gasoline followed in the wake of Navy and was soft throughout the week. Fuel oil remained the stellar performer and is the strongest of the products made in this territory.

Kerosene is still tumbling. Few inquiries for the product were reported. Distillate is moving briskly and its price is holding firm. Gas oil, while moving steadily, showed a tendency to weaken a little.

PENNSYLVANIA MARKET WEAKENED BY WEATHER

OIL CITY, Pa., June 26.—Bad June weather throughout the eastern marketing territory has considerably weakened the refined oil market in this territory. Motoring has not been as good as had been expected on account of the weather and this has cut down the amount of products used by the automobile trade. Although the price of gasoline is holding firm this product has been greatly affected by the weather conditions, the demand having fallen off considerably. In the meantime the large stocks which had been piled up at the Atlantic seaboard in preparation for a good June business are having their effects and it seems almost certain that the price of gasoline in the Pennsylvania territory will slip some soon. The only thing that would seem capable of preventing this would be about a month of very warm weather and some of the refiners do not believe that even that could stop the downward tendency.

The demand for kerosene is also off considerably and this product has been reduced in price during the week. Fuel oils are also weaker, due in part to a reduction in the amount of cracking being done. Neutrals are holding firm, but the demand for it is somewhat less. Cylinder stocks are very weak, with no demand at all. Wax is strong and in good demand.

OKLAHOMA FIELDS

(Continued from Page 116)

bbls. from sand at 3,197-3,200 feet and will be put on the pump. Dixie Oil Co.'s No. 1, NW cor. NE SE, Section 25-8-7, had sand at 3,355-65 feet with a hole full of water and a show of oil in sand at 3,015-35 feet and will be tested with a shot. Chaplin & Bass have rigged up No. 1, NE cor. SW SE, Section 15-8-8.

W. R. Ramsey's No. 5, SW cor. SE SE, Section 31-8-8, had sand at 4,181-93 feet and made 3,535 bbls. The rig is up for No. 6 Amos, NW cor. SE SE, Section 31-8-8. Dixie Oil Co.'s No. 4 J. Long, NW cor. SE NE, Section 32-8-8, is drilling at 3,350 feet. This is an old well drilled deeper. Amerada Petroleum Corp.'s No. 4, CWL SE NW, Section 5-7-8, had sand at 4,147-69 feet and made 2,325 bbls. Magnolia Petroleum Co. has the rig up for No. 2 Harber, NE cor. NW SE, Section 6-7-8.

Miscellaneous Operations

Dedman, Hennage and others have spudded No. 1, SW cor. SW, Section 6-27-3w, Grant County.

Peerless Oil Co. and others are drilling at 1,899 feet in No. 1, NW cor. SW, Section 12-18-5w, Kingfisher County.

V. A. Kenny's No. 2 Nelson, NE cor. SE NE, Section 28-1s-8w, Stephens County, is dry and abandoned at 2,305 feet.

Skelly Oil Co. has a rotary rig in for No. 4 Edmindson, NW cor. NW, Section 23-5-8w, Grady County.

Becker & Reed are drilling at 450 feet in No. 1, C NE NW, Section 19-6-4w, McClain County.

Beggs Oil & Gas Co. is drilling at 350 feet in No. 1, SW cor. SW, Section 2-12-15, McIntosh County.

United 8 Oil Co.'s No. 6, C S half SE SE, Section 24-5s-5, Marshall County, had broken sand at 578-600 feet and was shot with 20 quarts and is estimated at 20 bbls.; No. 1, SE cor. SW SW, Section 30-5s-1, is dry at 1,295 feet.

Orr and others have a machine drilling at 1,800 feet in No. 1 Barron, NE cor. SE, Section 24-10-25, Sequoyah County. Sequoyah Oil Co. has a rig in for No. 1 Miller, C SW SE, Section 32-11-25.

GERMAN ROAD MOTORIZED

One of the important lines of the Cologne-Bonn Railway Co., between Cologne and Bonn, which serves the centers of the Rhenish lignite industry as well as the principal agricultural centers of the Cologne district has been motorized. Trains generally consist of one driving car and one or two ordinary cars.

KHANAKIN OIL GRANT

The Persian Government has ratified the oil concessions granted the Anglo-Persian Oil Co. and transferred to the company the territories involved. The company will pay $1 a ton in royalties. Exploitation of the field will be carried out by the Khanakin Oil Co., a subsidiary of Anglo-Persian.

XUM

Montana Refinery Facilities Expanding

Large Production in Sunburst Field With No Trunk Line Outlet Resulting in New Construction Work.

By C. O. Willson

Due to the fact that a larger crude supply is available than any previous period in the history of the State, refining facilities in the State of Montana are again expanding. Several programs which provide either for the building of new plants or the improvement of those already in operation have been announced during the past few weeks. Other construction programs are under consideration.

The arrival of warmer weather is also a factor in the new activity among the refining fraternity. The extremely cold weather of the winter months reduces refinery operations, especially new construction, to a minimum. The cold weather also lessens the gasoline demand so that operators lack that inducement to maintain their operations at a capacity basis. This is shown in the fact that last year approximately 75 per cent of the total gasoline output was produced by refiners during the second and third quarters.

Improvement Program

One of the largest improvement programs is that of the Sunburst Refining Co. of Great Falls. This company is adding shell stills to its plant so as to raise its skimming plant to 4,000 bbls. daily. Bubble towers are being installed with the new stills. Storage and other equipment is being enlarged to care for the greater output.

At Shelby the Shelby Oil & Refining Co. is installing a portable refinery built by the Graver Corp. of Chicago. This is the first plant of its type to be installed in the Rocky Mountain area. A similar type plant has been operated successfully in the Texas fields. The plant is complete with an internally fired still and bubble towers. The plant is built on flat cars and is operated without removing from the base. This feature makes it possible to move the plant to any location desired. Officials of the company have announced that the output of the plant has been contracted for by the Arro Oil & Refining Co. of Lewistown which also operates a refinery.

GROWTH OF GASOLINE PRODUCTION AND CONSUMPTION IN MONTANA

	Mfg. in State Gallons	Mfg. and Exported Gallons	Imported Into State Gallons	Used in State Gallons
1923:				
First quarter	1,543,432	11,500	2,909,023	4,445,955
Second quarter	2,190,311	.....	5,722,500	7,912,811
Third quarter	3,444,275	.....	8,519,830	11,964,105
Fourth quarter	4,489,216	608,595	3,953,121	7,833,742
1923 total	11,672,234	620,095	21,104,474	32,156,613
1924:				
First quarter	3,915,744	1,069,467	1,898,819	4,744,396
Second quarter	7,230,434	1,649,179	2,592,386	8,173,641
Third quarter	8,862,531	1,234,673	5,022,347	12,650,205
Fourth quarter	6,013,503	1,020,594	3,824,110	8,817,019
1924 total	26,022,212	4,973,913	13,336,962	34,385,261
1925:				
First quarter	5,064,526	974,373	1,433,161	5,523,314
Second quarter	8,766,546	1,549,451	3,613,350	10,830,445
Third quarter	10,575,728	950,360	4,881,225	14,506,593
Fourth quarter	7,553,806	1,139,575	2,324,079	8,738,310
1925 total	31,960,606	4,613,759	12,251,815	39,598,662

At Sunburst, the topping plant of the International Refining Co. has been enlarged so that its present capacity is between 10,000 and 15,000 bbls. daily. No finished products are made at this plant. The tops are sold to other refiners, a large percentage at the present time being purchased by the Spokane Oil & Refining Co. at Spokane, Wash. The latter company is said to recover 80 per cent gasoline by rerunning the tops. Parts of the tops are sold to a small refinery at Lethbridge, Alberta, across the Canadian line from Montana.

At Great Falls, the plant of the American Oil & Refining Co. has been purchased by the Great Falls Producers & Refiners Corp. Officials of the new company have announced that they will operate the skimming plant which has been shut down for some time.

Across the Boundary

Just across the Canadian line there is also considerable activity in small skimming plant construction. At Coutts, Alberta, the Maple Leaf Oil & Refining Co. is increasing the size of its plant with the addition of two pipe stills with bubble towers. When these improvements are completed the plant will have a rated capacity of 2,000 bbls. daily. Another small skimming plant in operation at Coutts belongs to the South Alberta Refining Co.

As previously indicated practically all this activity can be accounted for as a development of greater crude production. Production in Montana is confined to the Sunburst and Cat Creek areas, the former in the northern part of the State, and the latter near the central part. Cat Creek production has been declining for some time with no prospects of a change in this trend. For that reason it has lost its attractiveness from the viewpoint of new refinery construction. The crude of this field is exceptionally high gravity and has been much in demand by the refiners operating in that section of the State. The production of the field averaged 3,382 bbls. daily last year based on State reports. Its present production is under 3,000 bbls. daily.

Interest Centers in Sunburst

The Sunburst area is now the center of attention of both the refining and producing fraternities. Although its daily output last year was less than 7,000 bbls. daily, its production at the present time provided the maximum amount of crude was taken from all wells is estimated in excess of 30,000 bbls. daily. Pipeline runs from the field are about 25,000 bbls.

Many wells at the present time are wholly or partially shut in due to the fact that crude marketing facilities are inadequate to handle the enlarged production. The field does not have a trunk pipeline outlet and this has meant that the crude which is sold to refiners outside that immediate area, must be moved in tank cars or stored.

The largest pipeline is that of the Illinois Pipe Line Co., which has a line leading to the refinery of the Imperial Oil, Ltd., located at Calgary, Alberta, with other connections in the fie'd. The Illinois company is now building a 6-inch line to Shelby where it is erecting large storage facilities.

There are a few smaller lines in the field either connecting to refineries or to loading racks. The Sunburst Field covers a relatively wide area and this adds to the difficulty of pipeline transportation.

It is due to this situation that the field is attractive to those desiring to build small skimming plants in the field. It is estimated that it will require four years to develop the field and it is believed that a crude supply is assured for refiners in the field for that length of time at least. None of the large crude buyers has announced that it will construct a trunk line to out of the state refineries and this attitude on the part of the major companies is also favorable to refinery construction within the field.

Although relatively high in sulphur content the Sunburst crude does not present any special operating problems in skimming. A test of a representative sample of crude recently showed that its gravity was 31.8 A.P.I. A distillation test showed a gasoline recovery of 27.5 per cent, naphtha 5 per cent, kerosene 5 per cent with the remainder fuel oil.

No cracking plants have been erected at the Sunburst group of refineries yet. Experimental work conducted by the owners of at least two cracking processes show that their processes are adaptable

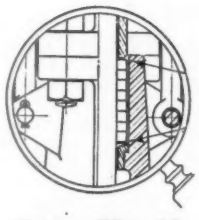
(Continued on Page 129)

Table Showing Gasoline Produced and Sold in Montana During 1925. Based on Revised Reports Just Released by State Government

Company and location—	First Quarter Total Mfg. Gallons	First Quarter Total Exported Gallons	First Quarter Sales in State Gallons	Second Quarter Total Mfg. Gallons	Second Quarter Total Exported Gallons	Second Quarter Sales in State Gallons
Absher Refineries, Inc., Kevin	12,744	8,000	4,744	30,717	8,097	22,620
Arro Oil & Refinery Co., W. Lewistown	1,280,901	437,926	842,975	2,568,998	1,111,637	1,457,361
Hart Refineries, Hedges and Missoula	239,261	.....	239,261	333,272	.....	333,272
Kalispell Oil & Refining Co.	.....	.....	.....	29,922	.....	29,922
Lewistown Oil & Refining Co., Lewistown	2,248,269	94,030	2,154,239	3,670,409	36,769	3,633,640
Montana Giant Petroleum Co.	149,061	96,551	52,510	295,344	94,533	200,811
Reliance Refining Co., Shelby	.....	.....	.....	13,314	.....	13,314
Silver Bow Refining Co., Butte	.....	.....	.....	132,894	.....	132,894
Snow Cap Oil Co., Sunburst	2,429	.....	2,429	16,501	847	15,654
Sunburst Refining Co., Great Falls	634,072	172,093	461,979	1,076,081	123,164	952,917
Yale Oil Corp., Miles City	396,229	165,774	230,455	599,094	174,404	424,690
Weowna Refinery	101,560	.....	101,560	Closed Down		
Totals	5,064,526	974,374	4,090,152	8,766,546	1,549,451	7,217,095
Distributors (Importers)						
Continental Oil Co., Denver, Colo.	.....	.....	588,285	.....	.....	2,039,077
Pure Oil Co., Minneapolis, Minn.	.....	.....	1,295	.....	.....	.....
Texas Oil Co., Casper, Wyo.	.....	.....	549,397	.....	.....	1,018,884
White Eagle O. & R. Co., Kansas City, Mo.	.....	.....	.....	.....	.....	209,726
Spokane Oil & Refining Co., Spokane, Wash.	.....	.....	.....	.....	.....	298,166
Mutual Oil Co.	.....	.....	198,404	Now Continental		
Miscellaneous	.....	.....	95,781	.....	.....	47,497
Grand totals	5,064,526	974,374	5,523,314	8,766,546	1,549,451	10,830,445

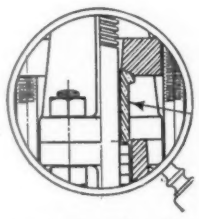
Company and location—	Third Quarter Total Mfg. Gallons	Third Quarter Total Exported Gallons	Third Quarter Sales in State Gallons	Fourth Quarter Total Mfg. Gallons	Fourth Quarter Total Exported Gallons	Fourth Quarter Sales in State Gallons	Total for Year Total Mfg. Gallons	Total for Year Total Exported Gallons	Total for Year Sales in State Gallons
Absher Refineries, Inc., Kevin	21,695	.....	21,695	33,746	.....	33,746	98,902	16,097	82,805
Arro Oil & Refining Co., W Lewistown	2,098,945	599,386	1,499,559	2,193,736	902,491	1,291,245	3,142,580	3,051,440	5,064,140
Hart Refineries, Hedges and Missoula	303,592	.....	303,592	188,071	.....	188,071	1,064,196	.....	1,064,196
Kalispell Oil & Refining Co.	17,792	.....	17,792	18,222	.....	18,222	65,936	.....	65,936
Lewistown Oil & Refining Co., Lewistown	5,442,019	149,565	5,292,454	3,656,537	122,045	3,534,492	5,017,234	402,409	4,614,825
Montana Giant Petroleum Co.	248,167	68,607	179,560	173,085	24,624	148,461	865,657	284,315	581,342
Reliance Refining Co., Shelby	61,056	.....	61,056	58,423	.....	58,423	132,793	.....	132,793
Silver Bow Refining Co., Butte	169,193	.....	169,193	.....	.....	.....	302,087	.....	302,087
Snow Cap Oil Co., Sunburst	30,624	1,617	29,007	10,909	.....	10,909	60,463	2,464	57,992
Sunburst Refining Co., Great Falls	1,394,082	9,367	1,384,715	834,094	878	833,216	3,938,329	305,502	3,632,827
Yale Oil Corp., Miles City	788,563	121,818	666,745	405,205	89,537	315,668	2,189,091	551,533	1,637,558
Weowna Refinery	Closed Down			Closed Down			101,560	.....	101,560
Totals	10,575,728	950,360	9,625,368	7,572,028	1,139,575	6,432,453	31,978,828	4,613,760	27,365,068
Distributors (Importers)									
Continental Oil Co., Denver, Colo.	.....	.....	3,064,528	.....	.....	1,039,227	.....	.....	6,731,117
Pure Oil Co., Minneapolis, Minn.	.....	.....	6,462	.....	.....	6,040	.....	.....	13,797
Texas Oil Co., Casper, Wyo.	.....	.....	1,389,118	.....	.....	901,238	.....	.....	3,858,637
White Eagle O. & R. Co., Kansas City, Mo.	.....	.....	288,703	.....	.....	219,513	.....	.....	717,784
Spokane Oil & Refining Co., Spokane, Wash.	.....	.....	24,291	.....	.....	24,465	.....	.....	198,404
Mutual Oil Co.	Now Continental			Now Continental			.....	.....	.....
Miscellaneous	.....	.....	108,123	.....	.....	115,383	.....	.....	366,784
Grand total	10,575,728	950,360	14,506,953	7,572,028	1,139,575	8,738,310	31,978,828	4,613,760	39,598,662

XUM



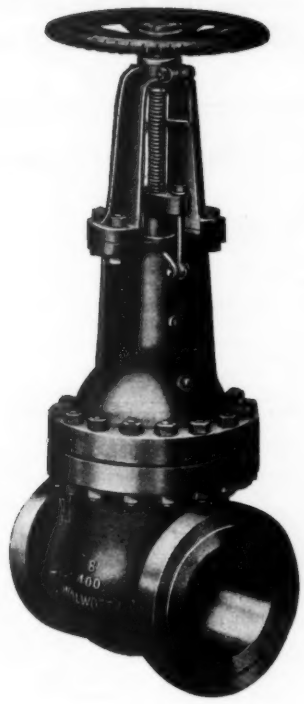
Point No. 19

A deep stuffing box is provided, affording ample room for adequate packing.



Point No. 20

A renewable, rolled monel metal stuffing-box gland is provided.



SIGMA STEEL

SERIES 400, 600 and 900

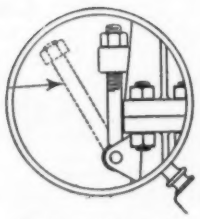
Notice in the "Points of Merit" illustrated here how much has been done to facilitate the repacking of this Walworth Sigma Steel gate valve under pressure. See, for instance, how the bolts can be swung out to prevent their loss in removing the gland plate.

Such precautions in the seemingly unimportant details are typical of the design and workmanship of these valves throughout. Results have justified their recommendation for severe conditions under high pressures.

We shall be glad to send you a copy of any of the Walworth Sigma Steel Bulletins. No. 3 describes and illustrates all of the "30 Points of Merit" in complete detail.

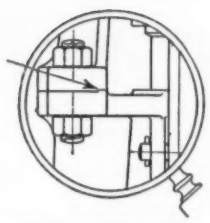
Point No. 21

A Walworth Sigma Steel self-adjusting gland-plate prevents cramping of the gland on stem if nuts are unequally tightened. The gland-plate ends are slotted, permitting nuts to be slackened and bolts swung out for repacking.



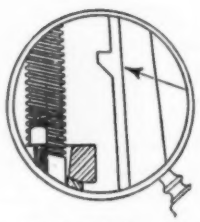
Point No. 22

Forged steel eyebolts on the gland-plate facilitate repacking and prevent misplacement or loss of bolts.



Point No. 23

A circular machined projection on top of bonnet fits into a machined recess on foot of yoke, thus accurately centering these parts without depending upon bolts for alignment.



Point No. 24

Lugs are provided in the yoke for supporting gland-plate while repacking stuffing box.

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Centralization in Natural Gasoline

Forty Leading Companies Have 78 Per Cent of Total Capacity. Mid-Continent Area Largest Producer

By Neil Williams

Further indications that the bulk of the country's natural gasoline output is owned by a relatively few manufacturers was given in The Oil and Gas Journal's recent annual survey of the industry which showed that the 40 leading companies controlled more than three-fourths of the entire production.

A study of the report, published June 3, reveals conclusively that the oil industry's youngest branch gradually is becoming more centralized and that the business of manufacturing gasoline is more in the hands of the larger companies than ever before.

The 40 leading companies represent only slightly more than 9 per cent of the total number of operators in the field, and, as their total daily output is approximately 78 per cent of the country's total daily production their influence can be seen readily.

There is a total of 5,128,000 gallons natural gasoline capacity in the United States. Of this amount the 40 leading companies control 3,983,361 gallons. This leaves only 1,144,639 gallons being made daily by the 1,024 other smaller companies over the country.

The trend during the past two years has been very noticeable toward a more centralized control of the natural gasoline industry. Larger companies continually have been taking over smaller manufacturers and reports of other mergers have been frequent.

This has been due largely to the rapidly decreasing gas supply in older fields making it unprofitable for smaller companies and plants to operate. Thus, in the scramble for gas larger companies have been forced to purchase or merge with other companies or make other cooperative working arrangements.

The larger companies also are building more plants than the other companies. This is shown in the survey by the fact that of the 35 plants reported building, 27 were being constructed by the 40 leading companies of the country.

This control of such a conspicuously large proportion of the country's gasoline output by these 40 companies is explained in the fact that these companies take in the bulk of the plants having a production of more than 5,000 gallons each, daily. Comparatively few of the remaining 399 plants have a daily output in excess of 5,000 gallons. The bulk of the plants owned by the 399 companies are producing from 100 to 2,000 gallons daily.

Illustrative of this, is the fact that the 78 per cent of the country's daily output owned by the 40 companies is produced from 45 per cent, or less than half, of the total number of plants. However, it is interesting to note that 9 per cent of the total number of companies own 45 per cent of the plants.

Large Plants

The importance of the 40 leading companies is indicated in the accompanying table which shows that each has a daily output of more than 30,000 gallons and ranging to as high as 486,200 gallons daily. The average output of the 439 plants owned by these companies is nearly 9,000 gallons daily.

The industry is centralized further in the hands of the 10 largest companies as these 10 companies own 51 per cent, or slightly more than half, of the 3,983,361 gallons daily production of the 40 companies. In other words a fourth of the 40 companies own half of the output.

Taking the industry as a whole, the 10 companies represent only 2 per cent of all the companies but have in their hands 2,040,803 gallons, or approximately 40 per cent, of the total production of the country. The 10 companies have 195

FACTS IN NATURAL GASOLINE PRODUCTION

Total plants in country	1,064
Total companies	439
Total gasoline capacity (gallons daily)	5,128,000
Output 40 largest companies (gallons)	3,983,361
Percentage of total output first 40 companies	78
Output 10 largest companies (gallons)	2,040,903
Percentage of total output first 10 companies	40
Plants owned by 40 largest companies	483
Plants owned by 10 largest companies	195

FORTY MAJOR COMPANIES IN NATURAL GASOLINE MANUFACTURE

(SHOWING CAPACITY IN GALLONS BY STATES)

Companies—	Oklahoma	Kansas	Texas	Louisiana	Arkansas	Total Mid-Cont.	California	Penn. Illinois Ohio	West Virginia	Rocky Mountain States (N.M.)	Total Out of Mid-Cont.	Grand Total	Number Plants
Phillips Petroleum Co., Bartlesville, Okla.	327,300	.....	144,400	7,500	.....	479,200	.....	.....	.....	7,000	7,000	486,200	35
Standard Oil Co. of Calif., San Francisco	.....	.....	.....	.....	.....	.....	354,013	.....	.....	.....	354,013	354,013	42
Pacific Gasoline Co., Los Angeles													
Chestnut & Smith Corp., Tulsa, Okla.	25,500	.....	207,100	.....	.....	232,600	.....	.....	.....	.....	.....	232,600	14
Hanlon Gasoline Co., Tulsa, Okla.													
Brooks & Hanlon, Inc., Tulsa, Okla.													
Smith-Hanlon, Inc., Tulsa, Okla.													
Sinclair Oil & Gas Co., Tulsa, Okla.	159,350	8,000	5,000	.....	.....	172,350	.....	.....	.....	.....	.....	172,350	11
Humble Oil & Refining Co., Houston, Tex.	.....	.....	140,800	.....	.....	140,800	.....	.....	.....	.....	.....	140,800	10
Mid-Continent Petroleum Corp., Tulsa, Okla.	135,000*	.....	.....	.....	.....	135,000	.....	.....	.....	.....	.....	135,000	12
Union Oil Co., Los Angeles, Calif.	.....	.....	.....	.....	.....	.....	134,000	.....	.....	.....	134,000	134,000	8
Virginia Gasoline & Oil Co., Charleston, W. Va.	.....	.....	.....	.....	.....	.....	.....	.....	132,700	.....	132,700	132,700	15
Shell Co. of California, Los Angeles, Calif.	.....	.....	.....	.....	.....	.....	130,000	.....	.....	.....	130,000	130,000	7
Magnolia Petroleum Co., Dallas, Tex.	50,400	.....	69,940	1,500	1,300	123,140	.....	.....	.....	.....	.....	123,140	41
Total first 10 companies	697,550	8,000	567,240	9,000	1,300	1,283,090	618,013	.....	132,700	7,000	757,713	2,040,803	195
The Texas Company, Houston, Tex.	59,800	.....	55,000	5,700	.....	120,500	.....	.....	.....	.....	.....	120,500	18
Skelly Oil Co., Tulsa, Okla.	95,500	.....	16,500	.....	5,000	117,000	.....	.....	.....	.....	.....	117,000	14
Carter Oil Co., Tulsa, Okla.	96,500	.....	.....	.....	.....	96,500	.....	.....	.....	(Wyo.) 18,000	18,000	114,500	5
Gypsy Oil Co., Tulsa, Okla.	106,430	.....	.....	.....	.....	106,430	.....	.....	.....	.....	.....	106,430	12
Hope Construction & Refining Co., Pittsburgh, Pa.	.....	.....	.....	.....	.....	.....	.....	(Pa.&Ohio) 16,936	85,492	.....	102,428	102,428	—
Reserve Natural Gas Co., Pittsburgh, Pa.													
River Gas Co., Pittsburgh, Pa.													
Standard Oil Co. of Indiana, Chicago, Ill.	33,000	.....	.....	.....	.....	33,000	.....	.....	.....	(Wyo.) 62,000	62,000	95,000	6
Midwest Refining Co., Denver, Colo.													
General Petroleum Co. and Norwalk Co., Los Angeles	.....	.....	.....	.....	.....	.....	90,000	.....	.....	.....	90,000	90,000	6
*Roxana Petroleum Corp., St. Louis, Mo.	88,000	.....	.....	.....	.....	88,000	.....	.....	.....	.....	.....	88,000	†10
Wolverine Petroleum Corp., St. Louis, Mo.													
Empire Gasoline Co., Bartlesville, Okla.	24,500	57,000	.....	.....	.....	81,500	.....	.....	.....	.....	.....	81,500	11
*Tidal Refining Co., Tulsa, Okla.	52,500	10,000	15,000	.....	.....	77,500	.....	.....	.....	.....	.....	77,500	†9
Tidal-Chelsea Refining Co., Tulsa, Okla.													
Tidal-Western Oil Corp., Tulsa, Okla.													
Total first 20 companies	1,253,780	75,000	653,740	14,700	6,300	2,003,520	708,013	16,936	218,192	87,000	1,030,141	3,033,661	311
Ohio Oil Co., Findlay, Ohio	4,000	.....	26,500	13,100	.....	43,600	.....	(Ill.) 15,250	.....	(Wyo.) 16,000	31,250	74,850	14
Mid-Kansas Oil & Gas Co., Tulsa, Okla.													
Gulf Refining Co., Houston, Tex.	.....	.....	28,250	40,000	4,000	72,250	.....	.....	.....	.....	.....	72,250	11
Gulf Production Co., Houston, Tex.													
Amerada Petroleum Corp., Tulsa, Okla.	65,500	3,000	.....	.....	.....	68,500	.....	.....	.....	.....	.....	68,500	14
Victor Gasoline Co., Tulsa, Okla.	57,300	.....	.....	.....	.....	57,300	.....	.....	.....	.....	.....	57,300	10
Moon Gasoline Co., Tulsa, Okla.													
Powers & Quinlan, Tulsa, Okla.													
M. F. Powers, Tulsa, Okla.													
Pacific National Gasoline Co., Los Angeles	.....	.....	.....	.....	.....	.....	57,000	.....	.....	.....	57,000	57,000	6
*Marland Refining Co., Ponca City, Okla.	46,000	9,000	.....	.....	.....	55,000	.....	.....	.....	.....	.....	55,000	†3
Lone Star Gas Co., Dallas, Tex.	.....	.....	54,500	.....	.....	54,500	.....	.....	.....	.....	.....	54,500	5
Honolulu Consolidated Oil Co., Los Angeles	.....	.....	.....	.....	.....	.....	50,000	.....	.....	.....	50,000	50,000	1
California Petroleum Corp., Los Angeles	.....	.....	.....	.....	.....	.....	48,000	.....	.....	.....	48,000	48,000	6
Ventura Refining Co., Los Angeles	.....	.....	.....	.....	.....	.....	46,000	.....	.....	.....	46,000	46,000	6
Signal Gasoline Co., Inc., Los Angeles													
Total first 30 companies	1,426,580	87,000	762,990	67,800	10,300	2,354,670	909,013	32,186	218,292	103,000	1,262,391	3,617,061	387
United Oil Co., Los Angeles, Calif.	.....	.....	.....	.....	.....	.....	45,000	.....	.....	.....	45,000	45,000	6
Richfield Oil Co., Los Angeles													
Signal Hill Gasoline Co., Los Angeles													
Gilliland Oil Co., Tulsa, Okla.	14,000	.....	.....	10,000	18,000	42,000	.....	.....	.....	.....	.....	42,000	5
Standard Oil Co. of Louisiana, New Orleans	.....	.....	.....	13,500	25,000	38,500	.....	.....	.....	.....	.....	38,500	3
Export Refining Corp., Los Angeles, Calif.	.....	.....	.....	.....	.....	.....	38,000	.....	.....	.....	.....	38,000	3
United States Refining Corp., Los Angeles													
The Redondo Co., Los Angeles, Calif.								(Pa.)					
South Penn Oil Co., Pittsburgh, Pa.	.....	.....	.....	.....	.....	.....	.....	6,000	30,000	.....	36,000	36,000	53
The Henderson Co., Tulsa, Okla.	15,000	.....	.....	.....	20,000	35,000	.....	.....	.....	.....	.....	35,000	2
Mon-Tex Corp., Fort Worth, Tex.	.....	.....	35,000	.....	.....	35,000	.....	.....	.....	.....	.....	35,000	1
McMan Oil & Gas Co., Tulsa, Okla.	10,500	.....	22,300	.....	.....	32,800	.....	.....	.....	.....	.....	32,800	5
Red River Oil Co., Tulsa, Okla.													
United Carbon Co., Monroe, La.	.....	.....	.....	32,000	.....	32,000	.....	.....	.....	.....	.....	32,000	7
Southern Carbon Co., Monroe, La.	.....	.....	.....	32,000	.....	32,000	.....	.....	.....	.....	.....	32,000	6
Total first 40 companies	1,466,080	87,000	820,290	155,300	73,300	2,601,970	992,013	38,186	248,192	103,000	1,381,391	3,983,361	483

*Output of Roxana Petroleum Corp. also includes a half of the production of the Comar Gasoline Co. and the Comar Oil Co., and a third of the Romarti Gasoline Co. Marland Refining Co. includes a half of the Comar companies, a third of the Romarti Gasoline Co. and a half of the Rainbow Bend plant of the Barnsdall Oil Co. The Tidal Refining Co. includes a third of the Romarti Gasoline Co.

†Does not include plants owned jointly with other companies but five plants so owned are included in grand total.

Year After Year

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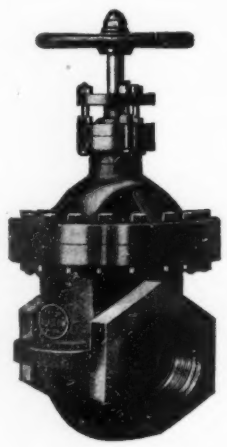


The internal mechanism of LUDLOW DOUBLE GATE VALVES consists of the following simple parts:

A stem, two gates and two beveled faced wedges, the wedges being entirely independent of the gates (or discs) and working between them.

THE LUDLOW VALVE MFG. CO.

(Established 1866)

Factory: Troy, N. Y.

Branch Offices:

Kansas City, Mo.; Chicago, Ill.; Pittsburgh, Pa.; Boston, Mass.

plants, or 18 per cent, of the total number of plants in the country with an average daily output of 10,460 gallons.

Some idea of the importance of the 10 companies is given in the fact that each has an output of more than 120,000 gallons of gasoline daily. And, in this group, the three highest companies are above the 230,000-gallon mark. After the first 10 companies the decline in size is more marked as the second 10 companies have an output of only 992,858 gallons daily; the third 10 companies, 583,400 gallons, and the fourth 10 companies, 366,300 gallons.

However, the first 20 companies, taken as a unit but representing only 5 per cent of all companies, own 59 per cent of the country's total production and 29 per cent of all the plants, while the first 30 companies as a unit, representing 7 per cent of the companies, control 70 per cent of the production and 36 per cent of the plants.

Phillips Largest Manufacturer

The largest producer of natural gasoline, as is generally known, is the Phillips Petroleum Co. of Bartlesville, Okla. This one company has an output of 486,200 gallons daily. All of this is in the Mid-Continent excepting 7,000 gallons in one New Mexico plant which only recently started up.

It is interesting to note that the Phillips Petroleum Co. and the next two leading companies, the Standard Oil Co. of California, which includes the recently acquired Pacific Gasoline Co., and the Chestnut & Smith Corp. and affiliated companies, produce more than 21 per cent, or a little more than a fifth of all the natural gasoline.

The Standard Oil Co. of California and the Pacific Gasoline Co. furnish a recent example of the marked trend toward concentration in the natural gasoline industry. The deal was consummated only last week by which these companies were merged and their natural gasoline operations consolidated.

The Phillips Petroleum Co. the leading company, also has had a rapid expansion during the year. It has purchased a number of plants, has taken over several smaller companies and at present is engaged in building quite a few new plants.

Standard of New Jersey

While not indicated in the accompanying table, another important factor in this industry is the Standard Oil Co. of New Jersey. If the output of its four subsidiary companies mentioned were grouped it would rank as the second largest manufacturer and would show more clearly the concentration of the gasoline production.

These four companies, the Humble Oil & Refining Co., the Carter Oil Co., the Hope Construction & Refining Co. and the Standard Oil Co. of Louisiana, have a total daily output of 396,228 gallons, placing this ahead of the 232,600 gallons produced by Chestnut & Smith Corp., and its closely affiliated companies.

In this connection the gasoline output can be brought into a still more compact group by combinations of various other companies in the list associated directly or indirectly and whose outputs are more or less a unit. The companies in the accompanying table were arranged to include groups of companies operated practically as units, separating subsidiary or other associated companies operated independently.

For instance, the Victor Gasoline Co. and its allied interests, stock in which is owned by Chestnut & Smith Corp., are separated, as are the Shell company of California and the Roxana Petroleum Corp., subsidiaries of the same parent company. The Gypsy Oil Co. and the Gulf Producing and the Gulf Refining Co. are also separated.

Mid-Continent Largest

As can be seen in the table, the bulk of the production of the 40 leading companies is in the Mid-Continent. These 40 companies produce 2,601,970 gallons in the Mid-Continent as against 1,381,391 gallons out of the Mid-Continent.

Outside of the Mid-Continent, California has a fair representation in the 40 companies with 10 groups of companies having a total output of 992,013 gallons daily but in the other states the production is comparatively small. Only three companies operating in Pennsylvania, Illinois, Ohio and West Virginia are listed among the 40 leaders. This is due to the fact that the bulk of plants in these states are small. The three companies are the Hope Construction & Refining Co., the Virginia Gasoline & Oil Co. and the South Penn Oil Co. The latter company has a larger number of plants than any other with a total of 53 but their combined output is only 36,000 gallons daily.

The accompanying table is self-explanatory, showing the 40 leading groups of companies and their production by states and their total number of plants.

EASTERN FIELDS

(Continued from Page 66)

the A. J. Kelly farm. In McClelland district, Doddridge County, the Manufacturers Light & Heat Co. is building a rig on the T. J. Smith farm. In Geary district, Roane County, the United Fuel Gas Co. is rigging up on the James Hall farm. The same company has made locations on the F. K. Vineyard and J. G. Myers farms. The same company is rigging up on the J. S. Ashley farm. In Grant district, Doddridge County, D. S. Gribble is rigging up on the Alvader Stuttler farm.

In Freemans Creek district, Lewis County, the Hope Natural Gas Co. is fishing at 2,200 feet on the Benjamin Riffee farm. In Skin Creek district, the Carnegie Natural Gas Co. has started to drill on the Georgia Wells farm.

On Tanner Run, DeKalb district, Gilmer County, the Hope Construction & Refining Co. has completed a test on the Edward Reynolds farm. The location is 1,000 feet north of the same company's No. 10, on the Drusella Hardman farm. It is a gasser good for 2,000,000 feet.

The South Penn Oil Co., in Henry district, Clay County, has completed No. 5, on the Joseph Belcher farm, good for 20 or 25 bbls. a day. In the same district, the Virginian Gasoline & Oil Co. has completed No. 9 on the Swan, Goshorn & Swan tract, not good for more than 5 bbls. a day. The location is 500 feet east of No. 6, on the same tract.

In Sherman district, Calhoun County, the White Pine Oil & Gas Co. has completed a test on the T. W. Simmers farm. It is a near duster in the Big Injun sand. The location is 1,000 feet southeast of the company's test on the Silas Simmers farm.

West Virginia Tests Starting

On Elk River, one-half mile north of the Davis Oil Co.'s No. 4, on the Harvey Samples farm, in Union district, Clay County, the Eastern Carbon Black Co. has the rig completed for a second test on the Bratton Samples farm. On Green Creek, Walton district, Roane County, the Clifton Oil & Gas Co. has the rig completed for another test on the G. M. Simmers farm.

In Grant district, Cabell County, Burns, Lockwood & Sweetland have completed a rig and started to drill on the R. D. Collins farm. In Center district, Wetzel County, the Hope Construction & Refining Co. is drilling on the Alonzo Jackson, Isaac Carney and J. A. Ritter farms.

Marshall County

In Meade district, Marshall County, the Decem Development Co. is rigging up on the Frank Baker farm. In Liberty district, Guy Patterson has started to drill on the Alfred Howard heirs' farm.

Southwest Pennsylvania

In Richhill Township, Greene County, on the John J. Cooper heirs' farm, the Carnegie Natural Gas Co.'s No. 3, is a gasser in the Big Injun sand. In Gilmore Township, C. J. Hamilton & Co. have a gasser in the same formation at a test on the Isaac Kinsey farm.

In Aleppo Township, Greene County, the Peoples Natural Gas Co. has a gasser in the Gordon sand at a test on the J. M. Moniger farm.

At Duff City, Allegheny County, W. H. Say's No. 10, on the Duthil tract, is a fair gasser in the Boulder formation.

MONTANA REFINERY FACILITIES EXPANDING

(Continued from Page 124)

to the operating conditions found in the field.

Marketing Conditions

Montana does not present an ideal situation for the marketing of refined products. However, it is no worse than that found in some of the other small refining areas. The third largest state in area in United States is sparsely populated which means a limited intra-state outlet for the gasoline output of the refineries. Even when sold within the state the gasoline oftentimes has to be moved over long distances.

As shown in the accompanying tables gasoline consumption in the state last year was approximately 39,500,000 gallons. This is little more than the average daily consumption in United States at the present time. The closest outside competition of the Montana refiners is the Casper, Wyo., group. This is at a considerable distance, however, especially in the case of refiners whose plants are located in the northern part of the state. This means that refiners can take advantage of a freight rate in their intra-state shipments differential which has enabled them to secure from 3 to 5 cents a gallon more for both their gasoline and kerosene at their plants than to the Mid-Continent refiners. This price differential aids in offsetting some of the disadvantages of the Montana Field.

Gasoline Outlet

In this connection it will be noted from the table that the Montana refiners last year had a total gasoline output of 31,978,828 gallons, or approximately 80 per cent of the total consumed in the state. With the enlargement program under way it is probable that before the year is over the Montana plants will be producing more gasoline than is needed in the state.

Last year due to the fact that approximately 12,000,000 gallons were shipped into the state from outside refineries, the refiners within the state were forced to sell outside or "export" 4,613,760 gallons. The list of outside distributors who imported gasoline into the state is given in the accompanying table. The Continental Oil Co. is the Standard marketing representative in the state and the largest in the state.

Some of these out of the state distributors buy part or all of their gasoline from the Montana plants. It has been reported at various times that these large distributors such as the Continental, The Texas Company and Pure Oil Co. will either secure control of plants now operating in the state or build new plants. Should the Sunburst Field continue to expand as it has during the past few months this is not an improbable development.

Other Products

The marketing situation in regard to kerosene is practically the same as gasoline. The demand in the state is not large and seasonal. The market in regard to fuel oil is improving. The early refiners in the state had considerable trouble in getting rid of the residuum from their plant operations as fuel oil. Industries within the state are now using more fuel oil. The Anaconda Smelting Co. is reported to have recently closed a contract with the Sunburst Refining Co. calling for the delivery of 800 bbls. daily of fuel oil.

The Great Northern Railroad is the principal railroad user of fuel oil. The International Refining Co. previously mentioned after topping the crude sells the bottoms to that railroad. It was recently announced that the new Great Falls-Billings branch would use fuel oil exclusively.

Room for Expansion

As indicated in the accompanying table there is still room for expansion in Montana refining. As long as there is no trunk line from the Sunburst area connecting to plants outside the state or the adjacent Canadian territory, it will probably be more profitable to refine the crude within the state rather than transport it long distances by tank car.

The table shows that 31,978,828 gallons, or 761,400 bbls. of gasoline, were produced by Montana refiners last year. Using 30 per cent as the average gasoline recovery of crude run to stills in the state and the conclusion is drawn that Montana refiners used 2,538,000 bbls. of crude last year. The production in the state, according to official figures, was 3,971,394 bbls. for the year or 10,880 bbls. daily. This shows that last year the Montana refiners consumed approximately 65 per cent of the crude produced.

Present production in Montana is around 25,000 bbls. daily. It is predicted that the 1926 production will be approximately twice that of 1925. This means that refinery output could also be doubled and still leave a surplus to be marketed outside the state.

ROCKY MOUNTAIN AREA

(Continued from Page 58)

1,500 bbls. The Homestake Oil Co. brought in another 1,000-bbl. well on Section 36-35-2, in the Ellis sand at 1,440 feet.

The field completed 15 wells the past week and of these, only two were dry. The rest will make producers ranging from 20 to 100 bbls.

Two large sales were recorded in the Sunburst Field the past week. The Adams Oil Co. sold 120 acres adjoining the Beardsley holdings and close to the Homestake and Fulton leases in the central part of the field for $100,000, to a syndicate of Minneapolis oil men. The land takes in 20 acres in Section 31-35-1; 20 acres in Section 6-34-1, and 80 acres in Section 36-35-2.

The Ohio Oil Co. has bought a half interest from the Utah Western Oil Co. in a large block of leases. The Utah Western Oil Co. is drilling a well on the block with the hole at 1,640 feet and the structure is called the Pendroy Dome. The purchase price was not made public and the Utah Western Oil Co. will complete the present well as its own property. The Ohio's holding will be checkerboarded with the Utah Western.

The Marland Oil Co. is starting a wildcat well about 6 miles north of the Baxter Basin Field in Sweetwater County, Wyoming.

Drilling at Moab

The discovery well of the Midwest Refining Co. and the Utah Southern Oil Co. below Moab on the Colorado River, is drilling in rock salt at 2,340 feet and the next sand that may hold oil is expected around 2,700 feet.

The Continental Oil Co. has spudded in a second test on the Geary Dome, about 4 miles northeast of the Big Muddy Field. The first hole drilled about two years ago went to 4,500 feet and failed to find production, the hole became cavey and stopped further progress, but the present well is being started with a 20-inch hole and is to go 5,000 feet unless production is found above that depth.

A. A. Tylee and C. H. Cook are bringing suit over title to lands in the Brenning Basin, in Converse County, Wyoming. It is alleged that the two oil men made a contract with E. C. Barker and Richard O'Bannon to develop the field, the latter couple to obtain title to the leases. The complaint states that title was obtained by Barker and O'Bannon but they failed to turn over a share to the Tylee and Cook partners.

Runs From the Fields

	Bbls.
Salt Creek	50,590
Teapot	1,310
Big Muddy	3,510
Grass Creek	3,140
Elk Basin	850
Greybull	20
Rock River	2,980
Notches	190
Rex Lake	210
Lance Creek	1,500
LaBarge	200
Poison Spider	1,220
Osage	350
Hamilton Dome	1,120
Lander	310
Byron	30
Lost Soldier	4,750
Ferris	90
Simpson Ridge	180
Cat Creek	2,830
Lake Basin	170
Sunburst	25,000
Florence	425
Moffat	4,020
Tow Creek	115
Fort Collins	3,465
Iles Dome	70
Boulder	25
Rangeley	100
Hogback	470
Rattlesnake	925
Artesia	3,000
Total	113,100

CALIFORNIA MARKET SHOWS STOCK CHANGES

LOS ANGELES, Calif., June 25.—Figures recently released by the American Petroleum Institute show that during May total stocks of crude and oil products in the Pacific Coast territory decreased 77,526 bbls. It is noteworthy that this decrease was made in the face of an increase in heavy crude stocks of under 20 degrees A.P.I. of 2,183,885 bbls. The fact that heavy crude stocks continue to increase justifies present low prices received for this oil. Refined crude of over 20 degrees A.P. I. decreased 1,349,272 bbls. during the month. Here again is shown the justification for the large spread in crude prices between the lower and higher grades. During this period, gasoline stocks decreased 467,696 bbls. While these reductions are gratifying to the oil industry, stocks on the whole are holding up somewhat better than was predicted earlier in the year. In fact, in consideration of the above figures, it is doubtful if gasoline or crude prices will again be increased in the near future.

Natural gasoline has weakened somewhat during the week. The main reason for this weakening is the falling off of gasoline prices in Oklahoma which has again made possible the shipping of natural gasoline to California. It is reported from authoritative sources that 200 tank cars of this commodity are now on their way out to California refineries. In view of this, prices offered for natural gasoline are now down slightly. Spot sales are being made around 2 cents under the service station prices of motor gasoline (tax excluded.) Sales on contracts of one to three years' duration are being made at 2½ to 3 cents under.

Railroad companies are actively pushing the issue of a reduction in rates on natural gasoline from Mid-Continent to California, and are reported to be making progress. It is said they are asking for a reduction of about 2¼ cents a gallon. The belief is that their request will be allowed. If the rates are reduced by this amount, it is obvious that the result will be a rather serious weakening of the local natural gasoline market.

During the past week, the Los Angeles City Council passed an ordinance changing the present gasoline specifications to conform to those of U. S. Motor gasoline. This new ordinance is a direct result of the efforts put forth by the Independent Petroleum Marketers Association to have such a change made. Heretofore gasoline sold in the city of Los Angeles, has differed somewhat from the regular U. S. Motor specifications. Consequently, refiners have had to make two grades of gasoline, where they are selling for export or in other domestic markets. One of the smaller refining companies alone estimates that this change will save it approximately $1,000 per month.

BIG MONEY PAID FOR UNDEVELOPED ACREAGE

(Continued from Page 29)

production of 185 bbls., the oil testing 16.4 degrees. It is interesting to note that the Shell has just taken this well off the beam and will carry it on down in search of a deeper producing horizon.

Geologists Differ

There is a little difference of opinion as to the geology of this area, some being inclined to believe that it is a westerly dipping monocline, while others believe that the structure is anticlinal. C. S. Thomas, a consulting geologist, recommended this area for development some 8 or 10 years ago but from some reason or other the deal fell through at that time. Mr. Thomas, in his original report covering Sections 18 and 20, suggested the drilling of what was, in his opinion, a normal westerly dipping monocline composed of middle to upper Miocene beds at the surface known in California as the Kern River series. The dip of the beds is west southwest in the Kern River Field and slightly north of west about 8 miles north of Mount Poso. The Vaqueros (lower Miocene-Tertiary) which is composed of silicious clays and shales, sandstones, thin limestone members, pebble conglomerates and normal shales and sandstones, underlies the Kern River series without uncomformity. The beds are of various thicknesses and some of the members are easily discernible in that region because of the variegated colorings. The geology of the Mt. Poso area is quite similar to that covering the Kern River Field and the action of the Shell in undertaking to deepen No. 1 Vedder partially confirms the theory of several geologists that two or more oil sands may be developed in this area.

Vedders "Clean Up"

Richard and Dwight L. Vedder, who have been leasing and prospecting in the Poso Creek area for a number of years in spite of considerable ridicule, are sitting on top of the world and have already added several hundred thousand dollars to the old bank account. R. A. Broomfield is another pioneer in this section, as evidenced by the fact that he has held several parcels for more than six years, during which time the outlook was not nearly as bright as it is today. The holdings of the Barnsdall Oil Co., literally checkerboarded on all sides of the Shell's discovery well, assure this company of production and any success which it might attain in this area is due primarily to the confidence and aggressiveness of Mr. Broomfield.

Bakersfield became the mecca for oil operators and lease hounds, following the completion of No. 1 Vedder at Mt. Poso by the Shell several weeks ago and the possibility of developing another structure in this vicinity has resulted in the leasing of section after section for miles around in every direction. These leases of course are quite flexible and, while many of the parcels now being tied up will probably never be drilled, still there are others which will be given one or more shallow tests. Practically every major company except the Pan American has lined up potential oil land but if a visit by E. L. Doheny means anything this concern will also be a prominent factor when drilling gets under way. With all this leasing going on it is logical to expect a larger amount of work during the coming summer and it would not be at all surprising if another shallow field was opened up as a result. Operators in the new Mt. Poso Field, however, will not have any town lot area to contend with, inasmuch as the acreage is held in large blocks and for this reason the district will be developed sanely. Field scouts nearly always refer to the "luck of the Union" when a new field is opened up as this company is nearly always sitting tight with some nice looking acreage. As usual, scout maps of the Mt. Poso area credit the Union with several hundred acres lying in what looks to be the center of the field, which, by the way, the company owns in fee. The writer has followed the destinies of the Union quite closely for a number of years and to him the discovery by this company of Santa Fe Springs and Dominguez in California and the Wellington and Fort Collins structures in Colorado during the past few years means more than a run of luck. The Union was the first company in California to have an organized geological department and its staff at the present time is second to none. That's something for the good luck boys to laugh off.

TAX INCREASE DEFEATED

In Louisiana the proposed amendment to the Constitution increasing the 2-cent present gasoline tax to 4 cents failed by 5 votes to secure the required two-thirds majority in the lower house. Sponsors of the amendment have announced that they will seek another vote on the proposal before the Legislature adjourns.

REFINING AND MARKETING

TANK CAR MARKETERS AND CREDIT SITUATION

CHICAGO, June 26.—At a meeting of the Chicago tank car marketers held at the Auditorium Hotel this week steps were taken to rectify the credit situation among a certain class of jobbers and industrial users.

No longer will it be possible for this kind of an account to act as sole judge in arbitrarily making deductions from invoices in cases where disputes arise from off-specification material without giving the seller an opportunity of inspecting his material. Neither will it be possible for him to discount invoices any time he sees fit. In some cases this period was found to be 45 to 60 days after cars were unloaded. In some instances payments of invoices were held up for periods of three to six months and the buyers found no difficulty in purchasing their requirements from some other sources after their credit had been shut off by the party who had sold them previously.

Under the plan that has been adopted, that is, interchange of credit information, these evils of the industry will be eliminated to a great extent. Practically all of the marketers in Chicago have representatives at these business sessions and they are all in harmony on the subject, so close co-operation is anticipated.

KENTUCKY IS SUED FOR GASOLINE TAXES

Suits totaling $501,490 have been filed by oil companies against the State of Kentucky seeking the return of payments made on a 3-cent gasoline tax which became effective the latter part of 1924. The actions are based on the contention that the 3-cent tax was a license tax and the companies contend they had paid their corporation license tax in the state before the gasoline tax became effective.

The Gulf Refining Co. has filed the largest suit to date, the company seeking a return of $232,418.82. The Great Southern Refining Co. is suing for $113,367.87, the Diamond Petroleum Co. for $42,240.30 and the Kentucky Independent Oil Co. for $36,581.64. Several smaller companies have also filed suits.

ILLINOIS MARKETERS MEET

CHICAGO, June 26.—The next meeting of the Illinois Petroleum Marketers Association will be held at Springfield, Ill., late in August. There will be no July meeting. At the meeting this week at LaSalle, there were about 100 present, divided between oil jobbers and salesmen for oil and equipment concerns. The morning session was devoted to the discussion chiefly of unethical practices. Members were requested to report all such practices to the secretary. At the open meeting the chief speaker was L. V. Nicholas of the National Petroleum Marketers Association, who spoke on the advantages of trade associations both state and national and on conditions in the industry. Fifteen new members were secured.

CONSUMPTION IN TEXAS

Gasoline consumption in Texas was 3,200,000 gallons greater in May than in April, according to an official report issued by the state during the past week. The largest distributor in the state was the Gulf Refining Co., which paid a tax on 10,371,000 gallons of gasoline. Other large distributors were the Magnolia Petroleum Co., 8,688,600 gallons; The Texas Company, 8,019,100 gallons; Pierce Petroleum Corp., 3,344,400 gallons, and the Humble Oil & Refining Co., 2,872,800 gallons.

NATURAL GASOLINE AND CRACKING CAPACITY

Oklahoma and California are the only states in which more gasoline is manufactured from casinghead gas than from the cracking processes of the refineries. In California where the cracking capacity is relatively small the natural gasoline plants have a capacity of 28,715 bbls. daily. In Oklahoma, the largest producer of natural gasoline, the capacity is 43,920 bbls. daily. In the same state the capacity of the cracking units is 93,550 bbls. daily showing that the actual gasoline output of these cracking units is less than the natural gasoline output.

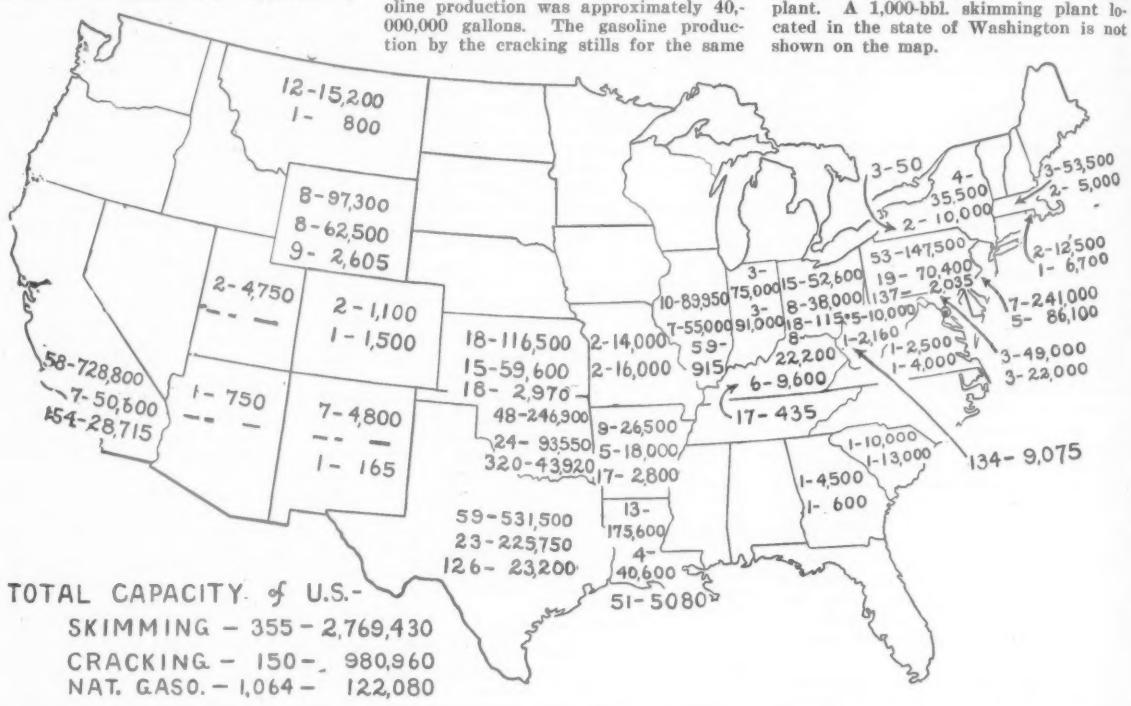
The accompanying map was prepared to show the manufacturing capacities by states for the entire United States. In the top line of each state the number of operating refineries is given together with the crude skimming plants of these states.

In the second line the number of refineries having cracking processes is given and also the capacity of the cracking equipment. In the bottom line the capacity of the natural gasoline usually given in gallons has been reduced to barrels. This gives the relative importance of all manufacturing divisions of the oil industry.

In Oklahoma based on the April report of the Bureau of Mines, the nautral gasoline production was approximately 40,000,000 gallons. The gasoline production by the cracking stills for the same period was approximately 30,000,000 gallons showing that 10,000,000 gallons more natural gasoline was produced than cracked gasoline.

In California the natural gasoline production during April totaled 29,276,000 gallons. The production of cracked gasoline was so small that it is not given in the government report.

In all other states but New Mexico the production of cracked gasoline exceeds the natural gasoline output. New Mexico is new both in refining and natural gasoline manufacture. Its few refineries have no cracking equipment and the natural gasoline output is confined to one plant. A 1,000-bbl. skimming plant located in the state of Washington is not shown on the map.



N. P. M. A. TO MEET AT ATLANTIC CITY

CHICAGO, June 26.—The membership of the N. P. M. A. has voted overwhelmingly to hold the fall convention at Atlantic City and the dates selected are October 26-28, inclusive. The hotel headquarters will be at the Traymore and the exhibits and meetings at the Steel Pier.

TO PUT GASOLINE SALE UNDER UTILITIES RULE

The sale of gasoline in the State of Tennessee will shortly be under the supervision of the State Utilities Commission according to Mark H. Senter of Chattanooga, president of the Tennessee Oil Men's Association. Mr. Senter says the independent oil jobbers of the state will ask the next session of the Legislature to provide for this supervision.

The jobbers have dropped their suit against the Standard Oil Co. of Kentucky in which they obtained a temporary injunction forcing the company to maintain a 3-cent margin throughout the state between the tankwagon and service station prices.

The matter of a permanent injunction was scheduled to be argued on July 19, when the jobbers decided to withdraw their suit. The case was based on the alleged practice of the Standard in giving larger margins to some buyers than others. The jobbers in asking that the suit be dropped stated that the conditions on which their suit had been based had been remedied.

PHILLIPS' PRODUCTION 430,000 GALLONS DAILY

The natural gasoline output of the Phillips Petroleum Co. will average 430,000 gallons daily for the first six months of this year, according to an official statement by the company. This production, which is the largest of any single company, comes from 35 plants which have a capacity of nearly 500,000 gallons daily.

The production for this year compares with the total of 119,852,000 gallons (328,000 gallons daily) in 1925 and 13,344,000 gallons or 36,500 gallons daily in 1922.

ESPEY TO SALES STAFF

W. E. Espey, chief experimental chemist at the West Tulsa, Okla., refinery of the Mid-Continent Petroleum Corp., has joined the sales organization of the company with headquarters in St. Louis. Mr. Espy has been connected with the Mid-Continent (formerly Cosden) since 1918. Specializing in petroleum chemistry, Mr. Espey has had a prominent part in the experimental work of his company.

MANHATTAN CO. BUYS MONARK GASOLINE CO.

The properties of the Monark Gasoline & Oil Co. of Kansas City, one of the largest independent jobbing concerns in the Middle West, last week were purchased by the Manhattan Oil Co. of Kansas. The deal involved 70 filling stations located in Kansas City, Mo., and Kansas City, Kans., including a tank farm, lubricating plant and office building. Approximately $1,500,000 was involved in the transaction. The new owners will take possession July 1.

The purchase is an important acquisition to the distributing facilities of the Manhattan Oil Co. The company will have 90 stations in Kansas City, Mo., and Kansas City, Kans., in addition to its 250 stations located in the States of Iowa, Nebraska, Wisconsin and Minnesota. The supply of refined products for these retail facilities comes from the Kansas City refinery which became the property of the company last year through a consolidation with the Kansas City Refining Co.

NEW LION CO. DIRECTORS

F. C. Kaths of Kansas City, Mo., and J. K. Mahony of El Dorado, Ark., have been added to the board of directors of the Lion Oil Refining Co. of El Dorado, Kans. Mr. Kaths was formerly president of the Larabee Milling Co. Mr. Mahony is an attorney.

XUM

NATURAL GASOLINE STORAGE

25,000 gallon, shop erected tanks fit every size plant—

Can be had quickly—cost is low—are easily moved—withstands the pressure without insulating.

RIOW Construction Used

Graver Builds

Tanks
- *Welded*
- *Riveted*
- ~~Gas~~
- *Water* (*Riveted, Inside & Outside Welded*)
- *Structural Supports*
- *Tower Tanks*
- *Standpipes*
- *Any Size Tanks Erected Anywhere*

Refinery Equipment

Jenkins Cracking Process

Stacks-Breechings

General Steel Plate Construction

Water Softeners
- *Hot Process*
- *Cold Process*
- *Zeolite*
- *Household*

Filters—*Pressure*

Purifying Systems *for* **Swimming Pools**

GRAVER *Corporation* Founded 1857

EAST CHICAGO, INDIANA

NEW YORK Grand Cent. Term. | CHICAGO Steger Building | TULSA Atlas Life Bldg. | HOUSTON West Building

Brief Items for Plant Operators

Japanese Announce Adsole Process for Gasoline Recovery

Interest is being evidenced in the new Adsole process of gasoline recovery from natural gas. Several of the larger manufacturers are interested in tests which will shortly be made in this country. The Adsole process was perfected and patented by the Institute of Physical and Chemical Research of Japan with headquarters at Tokyo. The material which has been given the above name was perfected and employed as a drying agent, used in the drying of cocoons, fish, vegetables, fruits, etc., and in the extraction of moisture from the air in certain types of factories in Japan. Because of its remarkable absorbing power, its long life without deterioration or decrease in efficiency, and its general ease in handling, Adsole was adopted or employed in the extraction of gasoline from natural gas.

M. Hamada, who represents the Japanese Institute in America, is returning shortly from Japan, bringing with him an institute engineer and a complete gasoline extracting plant of the type to be installed or marketed in the United States and elsewhere. It is planned to install this plant on the property of some West Coast gasoline manufacturer and thus to secure accurate comparative data as to the efficiency of the apparatus and adsorbent.

The Adsole company also has planned to install some 10 of its plants with certain companies in the United States at its own expense, payments to be taken from the sale of gasoline manufactured. It is understood that the process will be marketed, however, on a royalty basis, after commercial tests and installations have definitely proved its value.

The absordent itself is a granular substance, having a white to reddish brown color. It is is odorless, tasteless, noninflammable and nonpoisonous. Physically it resembles colloidal silica, being extremely porous it thus provides a very large active surface. It is not easily crushed and will maintain its own weight when packed in cylinders, etc., indefinitely. This characteristic makes for ease in removing gasoline vapors from the absorbent.

Another item of interest is the fact that no steam is required in the operation of this type of extraction equipment. The absorbent power of Adsole is restored to its original efficiency by cooling rather than by heating. In fact, it is claimed that over heating is the only possible injurious procedure where Adsole is used. At 200 degrees Centigrade (392 degrees Fahrenheit) the material begins gradually to shrink. Temperatures below this are noninjurious. Such temteratures as 300 degrees Centigrade to 400 degrees Centigrade (572 degrees Fahrenheit to 752 deegrees Fahrenheit) are more or less destructive to its absorbing ability. By avoiding temperatures above 200 degrees Centigrade (392 degrees Fahrenheit) no damage can be done the material.

STABILIZER SUIT DELAYED

HOUSTON, Tex., May 29.—The trial of the suit of Carbide & Chemicals Corp. against The Texas Company involving the stabilizer process in the manufacture of natural gasoline has been postponed until next fall. The case had been scheduled for trial in Federal court this month. In this case the plaintiff company alleges that The Texas Company has been using a process in the operation of its natural gasoline plants which infringes on the patents covering what is commonly known as the Rafferty stabilizer.

EUGENE BROWN JOINS JENKINS PROCESS CO.

Eugene P. Brown, who has been with the Standard Oil Co. of Indiana for several years as a research chemist, has joined the staff of the Jenkins Petroleum Process Co., Chicago, owners of the Jenkins cracking process. Mr. Brown will be assistant to the president and will have charge of all research work.

Mr. Brown is one of the widely known research engineers and chemists of the petroleum industry. He is a graduate of the University of Virginia, receiving both graduate and postgraduate degrees in science from that institution. For several years he was connected with chemical companies in research work and during the war was in the chemical warfare service.

After the war he was employed at the Whiting, Ind., refinery of the Standard Oil Co. of Indiana. Most of his time with the Indiana company has been devoted to research work and he holds several patents for his work in refinery processing. With Dr. Robert E. Wilson of the same organization he developed the so-called "balloon method" of preventing storage losses in the handling of crudes and gasolines.

It was also announced during the past week that J. J. McKeague had joined the Jenkins company in the capacity of assistant secretary. Mr. McKeague is a graduate of the University of Wisconsin and a chartered accountant.

LISBON PLANT STARTED

The first natural gasoline plant to be built in the new Lisbon, Ark., Field is now in operation. The plant is owned by the Lisbon Gasoline Co. The gasoline is being pumped to refineries located at El Dorado, Ark. The plant to which additions are to be made has a capacity of 8,000 gallons daily.

Western Gasoline Producers Perfect New Organization

The natural gas manufacturing industry which has become of paramount importance in California will in the future have the benefit of unified research as a result of the organization of the California Natural Gasoline Association in Los Angeles last week. This new organization, which had its preliminary meeting on December 4, 1925, has grown from a small group to nearly 100 active members and will undoubtedly add a considerable number during the next several months.

At the first annual meeting held last week, Paul D. Barton of the Richfield Oil Co. was elected president, while J. A. Campbell of the Lomita Gasoline Co. and J. S. Watson of the Shell company were elected vice president and secretary, respectively.

The affairs of the new organization will be directed by an executive committee composed of R. E. Beckley of the Pacific Gasoline Co., George L. Ratcliffe of the General Petroleum, D. A. Cushman of the California Petroleum, I. B. Funk of the Lovell Gasoline Co., H. L. Eggleston of the Pan American and R. W. Garmon of the Union Oil Co. The first three, together with the presiding officers, who are also members of the executive committee, will serve for one year, while the last three will continue in office for two years.

NEW PLANT AT VENTURA

The Shell Oil Co. of California is installing a gasoline absorption plant at Ventura, being similar to the one installed some time ago in the Baldwin Hills section. The equipment was supplied by the Southwestern Engineering Corp. of Los Angeles.

AMONG THE TECHNICAL MEN

C. L. Henderson, vice president of the Vickers Petroleum Co., Wichita, Kans., is one of the most widely known executives among the refiners of the Mid Continent Field.

C. L. Henderson

At the present time he is vice president of the Western Petroleum Refiners Association and for the past two years has been chairman of the important manufacturing committee of the association. In the latter work Mr. Henderson is frequently called upon to present the views of the western refiners in regard to changes in specifications for petroleum products. Largely through his efforts and that of other members of the committee a spirit of co-operation has been fostered among refiners which has been an important factor in the general increased efficiency of the Mid-Continent refining industry.

Born in Tennessee, Mr. Henderson is a graduate of the state university, receiving degrees in both electrical and mechanical engineering. In 1915 he also received a degree for postgraduate work. His first employment was with the Denver, Colo., companies of the Henry L. Doherty organization. His first work in the oil business was with the S. H. Hale interests operating oil and gas properties in 1915.

He became vice president of the Sterling Oil & Refining Co. at Wichita, Kans., in 1917. He continued with this company until he joined the Vickers company in 1922. He has charge of the refining and sales divisions of the company.

DR. FRANCIS APPOINTED CHIEF TECHNOLOGIST

Dr. C. K. Francis, technical editor of The Oil and Gas Journal, has been appointed chief technologist of the Skelly Oil Co. Doctor Francis' connection with the Skelly company will not affect his work with The Oil and Gas Journal.

Doctor Francis has been connected with the Skelly Oil Co. as a consultant for several months. The company has been enlarging its technical department at its El Dorado, Kans., refinery and next month when its program is completed will have one of the best equipped laboratories in the Mid-Continent Field. Doctor Francis will have charge of all technical work at the refinery.

DEATH OF GEORGE R. SIMONS

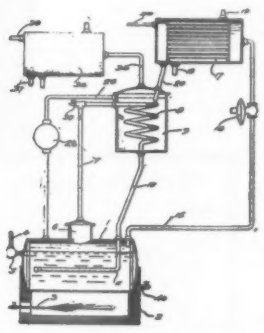
George R. Simons, assistant superintendent of the Wichita Falls, Tex., refinery of the Texhoma Oil & Refining Co., died June 22. Mr. Simons was well known by operators in the Mid-Continent Field as he had been employed at several refineries. He had been with the Texhoma refinery about two months, having come there from Farmington, N. Mex., where he had been connected with construction and operation of the Continental Oil Co.'s refinery at that point. Mr. Simons for some time was a member of the engineering staff of the Universal Oil Products Co. of Chicago. Funeral services were held Friday at Okmulgee, Okla. The burial took place at Hamilton, N. Y., Mr. Simons' former home.

NEW GERMAN FUEL

A new German fuel known as B. V. Monopolin, is being introduced on the German market by the Benzol-Verband of Bochum, according to a report by Trade Commissioner William T. Daugherty at Berlin. This fuel is said to be a mixture of ethyl alcohol with light gasoline and motor benzol.

Recent Patents

1,586,133. Continuous Refluxing Still. Milon J. Trumble, Los Angeles, Calif. Filed September 8, 1924. Serial No. 736,436. 9 Claims. (Cl. 196—99.)



1. An apparatus for cracking oils comprising: a still; means for heating said still; a refluxing coil; means for delivering vapors from said still to said refluxing coil; means for delivering condensate from said refluxing coil to said still; a condenser; means for delivering vapor from said still to said condenser; walls forming a rerun chamber in which said refluxing coil is situated; means for delivering condensates from said condensate to said rerun chamber; means for delivering surplus liquid from said rerun chamber to said still; and means for condensing vapors produced in said rerun chamber.

Securities Market Talks of Mergers

Oil Issues Active and Strong; Union, General Petroleum and New York Standard Featuring the Week Operations

By N. O. Fanning

New York Bureau, The Oil and Gas Journal, Room 543, 30 Church St., New York

NEW YORK, June 28.—Oil securities were active and strong during the week with Union of California, General Petroleum and Standard of New York featuring.

A week ago, when oil securities were comparatively quiet, there were no important mergers pending—according to Wall Street gossip. At present, with oil securities active, and some of them advancing in price, suddenly a good portion of the oil executives have jumped into conference to arrange numerous important consolidations—still according to Wall Street gossip.

To get away from Wall Street gossip, there is no doubt of the present tendency in the oil business, as well as others, toward consolidation. This is proved by the numerous consolidations already consummated.

Furthermore, it is practically certain that negotiations are pending involving the consolidation of additional oil companies. It is equally certain that four companies considered in these negotiations are Skelly Oil, Marland Oil, Atlantic Refining and Union Oil Co. of California, but not with each other, necessarily. The writer bases this assertion on advisability of further consolidations brought about by those already put through. Atlantic Refining Co. and Union Oil Co. of California could be expected to seek to strengthen their organization, if for no other reason than that their competitors have done so. A merger of these two companies, therefore, could be considered a logical development which would ultimately be of some benefit to the oil business as a whole—but any merger would depend on the arrangement of terms suitable to both parties.

It has already been pointed out in these columns that some recent negotiations have fallen through as a result of the impossibility of the parties concerned to agree on terms. However, it is irrelevant to mention the names of companies engaged in negotiations, and often causes embarrassment to the parties concerned. It has been the policy in these columns not to report negotiations in advance, but to await the time when facts may be stated which will be of value to the investor as well as to the companies. Rumors, or premature reports, often cause losses to both. The oil business wants to see useful oil mergers go through; Wall Street gossip is not of special interest to it.

Lobitos Oilfields, Ltd.

Net profit of the Lobitos Oilfields, Ltd. for the year ended December 31, 1925, was £266,410, after charges and depreciation, comparing with £238,064 in the previous year.

Lobitos Oilfields is the largest producer of crude oil in Peru next to International Petroleum, Ltd. The latter company, it is understood, has a contract to refine the bulk of Lobitos output. A new contract made by Lobitos involves the sale of crude oil to the Atlantic Refining Co., involving about 50,000 bbls. a month. This is delivered to Atlantic's refinery at Philadelphia.

Mexican Eagle Oil

Mexican Eagle Oil Co., Ltd., report for the year ended December 31, 1925, trading profit of 9,551,163 Mexican gold pesos, compared with 10,241,313 pesos in the preceding year. Net profit after depreciation was 4,030,879 pesos, against 4,216,077 pesos in 1924.

The Mountain Producers Corp. reports for the year ended December 31, 1925, net earnings of $4,843,543 after royalties and expenses but before depletion and Federal taxes. This compares with net of $6,420,493 after royalties, expenses and taxes but before depletion in 1924. Dividends paid during the year totaled $3,448,473 comparing with $2,859,709 in the preceding year. Current assets on December 31, 1925, were $11,836,782, comparing with $10,454,639 at the end of 1924, and current liabilities were $1,140,814 against $796,592.

New England Oil

New motions enlarging by $16,000 the already wide scope of the complex litigation surrounding the New England Oil Corp.'s affairs have been filed in the Federal Court here. Ernest Wiltse, a creditor, submitted petitions seeking to establish further liability in that sum for damages alleged to have been done the corporation and the New England Oil Refining Co. by fraud, conspiracy and bribery.

Wiltse asked that an earlier motion to extend the receivership of the oil corporation to include the refining company and the New England Steamship Co. be amended and Receiver Irwin McD. Garfield of the oil corporation be instructed to join with him as petitioner for prosecution.

Oil Well Supply

The earnings of the Oil Well Supply Co. in the first half of 1926 will probably show improvement over the corresponding period of 1925, when net after depreciation, interest and Federal taxes was $718,870. Sales of pipe and drilling equipment have been substantially greater so far this year than in 1925. Export business, which established a record in the first half of 1925, is being exceeded this year. In 1925 the Oil Well Supply Co. reported net of $1,442,710, equivalent to $4.31 a share on the $25 par value common stock, after allowing for preferred dividends.

In the first five months of 1926, Pan American Petroleum & Transport Co.'s sales of gasoline amounted to 103,320,000 gallons. The company has 85,000,000 gallons in storage. Fuel oil sales in the same period were 15,000,000 bbls. Storage of fuel oil amounts to 8,000,000 bbls., while crude oil stocks are about 3,000,000 bbls. The company is understood to be purchasing 50,000,000 gallons of gasoline a year from Pan American Western Petroleum Corp.

Royal Dutch Report

The Royal Dutch Co. for the year ended December 31, 1925, reports net income of 94,500,194 florins, after expenses and taxes, comparing with 87,983,567 florins in 1924.

Profit and loss account for 1925 compares as follows (in florins—a florin equals approximately 40 cents):

	1925	1924
Total income	95,902,227	89,512,076
Expenses, taxes, etc.	1,402,033	1,528,509
Net income	94,500,194	87,983,567
Pfd. divis. 4 per cent	60,000	60,000
Pfd. divis. 4½ pct.	1,282,500	1,282,500
Ord. divis. 6 per cent	24,147,060	24,147,060
Surplus	69,010,634	62,494,007

The balance sheet of the Royal Dutch Co. as of December 31, 1925, follows:

Assets: Unissued shares, 162,791,000 florins; investments, less reserve for difference between par value and book value, 363,770,791 florins; cash, 142,845,607 florins; debtors, 73,451,920 florins; interim dividend priority shares, 641,250 florins; total, 743,500,568 florins.

Liabilities: Share capital, 570,000,000 florins; preference share capital, 1,500,000 florins; unclaimed dividends, 764,829 florins; creditors, 1,990,124 florins; undistributed dividends, 1,969,751 florins; reserves, 44,275,670 florins; profit and loss surplus, 94,500,194 florins; total, 743,500,568 florins.

Salt Creek Producers

At the meeting of directors of the Salt Creek Producers Association, scheduled for July 1, it is understood an extra dividend will be declared in addition to the regular quarterly 62½ cents. The extra dividend probably will be $1 a share.

Sinclair Crude Purchasing

The Sinclair Crude Oil Purchasing Co. will call for redemption August 2, at 101⅛, $10,000,000 of its three-year 6 per cent notes due February 1, 1928, and is retiring an additional $500,000 of these notes purchased by the company. The notes may be presented for redemption at the First Trust & Savings Bank, Chicago, or at the principal office of the Chase National Bank, New York, or at the principal office of the National City Bank, New York.

Southern Pipe Line

Note has been sent to stockholders of the Southern Pipe Line that the company expects to mail the new $50 par stock certificates, together with checks covering $40 a share capital stock reduction, on or before July 10. Stockholders May 5 approved reduction in capital stock to $5,000,000 from $10,000,000 and change in the par value to $50 from $100, leaving the number of shares unchanged. After the distribution of $40 a share in cash, to be made on or before July 10, stockholders will subsequently receive payment of $10 a share. Books open for the new issue about August 2.

Standard of New Jersey

The Wall Street Journal says it is understood Standard Oil Co. of New Jersey is considering retirement of its preferred stock and placing the common stock on a $2 annual dividend basis at the meeting in August. The present

(Continued on Page 143)

NEW YORK STOCK EXCHANGE—LIST OF ACTIVE STOCKS

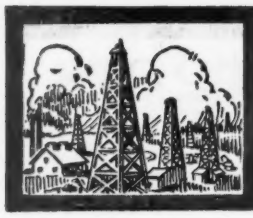
Stocks—	Par	Clos. Quot. June 28	Clos. Quot. June 21	1926 High	1926 Low	1925 High	1925 Low	1924 High	1924 Low
Amerada Corp.	..	31	28⅝	31	21¾	..	..	..	..
Atlantic Ref., com.	100	117	118½	128⅝	97	117½	95⅛	140½	78½
Barnsdall "A"	25	26	27	33⅛	23½	33½	18¾	29½	14
California Pet., com.	25	33⅝	34½	38⅛	30⅝	34⅞	23⅞	29	19⅞
General Petroleum	25	69	63⅞	65⅜	51¼	59	42	45	38⅝
Houston Oil	100	60¼	64	72	50¼	85	59	82½	61
Independent Oil & Gas	..	24¾	25⅝	34	20¼	41¾	13½	16¼	5⅝
Indian Refining	10	10	10	13⅜	9½	14¼	5½	7	3⅝
Lago Oil & Trans.	..	22⅝	23⅜	24½	19¼	..	..	..	..
Louisiana Oil	10	17⅛	19⅛	19⅝	12	23¾	13⅜	..	..
Maracaibo	..	25	26⅞	28⅞	20⅜	35½	20⅜	37¼	25⅜
Marland	..	60½	61⅞	63⅜	49¼	60⅛	32⅝	42	29
Mexican Seaboard	..	11⅜	8	12⅛	6	22½	9	25⅜	14⅛
Mid-Continent Pet.	..	31⅛	32	41	25⅝	38	25⅜	40¼	22⅝
National Supply	50	•61	60⅜	65⅞	55½	71	54⅜	72½	54
Oil Well Supply	25	•30½	•31	36	30½	38	33⅜	..	..
Pan. Amer. P. & T., com.	50	72⅜	74¼	76½	56⅛	83⅞	59½	65	44½
Pan. Amer., Western B.	..	39	39⅞	46	34	49⅜	37¼	..	..
Phillips Pet.	..	47⅞	48¼	48¼	42½	47⅛	36¼	42¼	28½
Producers & Refiners	50	•14	14	17½	11	32⅝	12½	43½	29⅜
Pure Oil, com.	..	27⅝	28¼	31	26	33⅜	25⅛	30¼	20
Royal Dutch, N. Y., sh.	13.40	53¼	53	57⅜	50	57⅞	48¼	59½	40⅜
Shell Transport	10	•48	•48	48⅞	42	49	39⅜	42	33
Shell Union, com.	..	25⅝	25⅜	28⅛	24	28⅜	21⅝	22½	15⅜
Simms Pet.	10	19⅝	30	28⅝	20⅜	28½	17⅜	24	10⅜
Sinclair Consolidated, com.	..	22½	23	24⅞	19⅝	24⅞	17	17½	15
Skelly Oil	25	36⅜	24⅝	36⅛	27	32½	21⅜	29	17⅛
Standard of California	25	59⅝	58⅝	62¼	54	67¼	51½	68⅛	55½
Standard of New Jersey, com.	25	45	44⅜	46⅜	40¼	47⅛	38⅜	41⅜	33
Sun Oil Co.	..	•33	33½	41⅝	31½	43⅞	38½	..	..
The Texas Company	25	55	55¼	55¼	49	55	42⅜	45⅝	37⅜
Texas Pacific Coal & Oil	10	14⅜	14⅜	19½	12⅛	23⅜	11	15¼	8¼
Transcontinental	..	3⅞	4⅛	4⅜	3	5⅞	3½	6¼	3⅜
Union Oil of California	25	54⅛	53	56	37¼	43⅝	33⅛	39	35½
Union Tank, com.	100	•92	•94	94⅞	84¼	‡134	118	132⅞	94
White Eagle Oil & Refining	..	27⅜	27⅜	29⅜	26¼	31⅝	25⅝	29⅝	23½
Standard Oils									
Anglo-American Oil	£1	•18½	18	19⅝	16½	26¾	17½	18¾	14⅝
Borne Scrymser	100	•230	•230	248	226	240	205	164	150
Buckeye Pipe Line	50	•51	•51	59½	52	72	63½	85½	51
Chesebrough Mfg. Co.	25	•71	•71	72⅝	63	74	48¼	62½	29¼
Continental	10	22	21½	25⅞	19¼	31⅛	21⅞	..	..
Crescent Pipe Line	25	•14⅜	•13⅞	16	14½	17½	10	20	11⅜
Cumberland Pipe Line	100	109	•108¼	137	108	156	128	148	108
Eureka Pipe Line	100	•55	•51½	63¾	47¾	96	61¼	105	74
Galena Signal, com.	100	•19½	•20	32½	17¼	68½	23½	69⅝	62½
Humble Oil & Refining Co.	25	64½	64¼	68⅛	52	99	42½	43⅜	36
Illinois Pipe Line	100	•133	132	144	131	154⅜	124	161	123
Imperial Oil, Ltd.	..	35⅜	35⅜	38⅜	32½	39¼	27¼	119	99
Indiana Pipe Line	50	68	•66	68	58	84	57½	100	66
International Pet. Co.	10	33⅞	33⅝	35¼	28⅜	35⅜	22⅛	24⅜	16⅞
National Transit Co.	12.50	•15¼	15⅜	20⅜	15⅜	25½	16½	25⅞	20⅝
New York Transit	100	•47	•48	50	39	79	50	97	54½
Northern Pipe Line	100	74½	•73½	80½	70⅝	88	67½	107½	72
Ohio Oil Co.	25	60	58	67⅜	58	75¼	60	79¼	53
Penn.-Mex. Fuel	25	•19	20⅛	23	15	44	19	35⅝	27
Prairie Oil & Gas	25	53⅜	54	60¼	48	65½	45⅞	269	193
Prairie Pipe Line	100	•126	126	127	122½	129¾	105	111	100
Solar Refining Co.	100	190	•190	212	184½	259	200	240	170
South Penn Oil	25	36⅛	35	50	35	‡197	139	176	117
Southwest Pa. Line	100	•49	•48	54½	47½	84	50	89	68
Southern Pipe Line	50	•67	•28	74½	61⅛	103	63	100	80½
Standard of Indiana	25	64½	64⅝	70½	61⅝	70¾	59½	69⅝	54¼
Standard of Kansas	25	25⅝	26⅜	36½	25	46	30¼	50½	32½
Standard of Kentucky	25	120½	•121	134⅜	108	137	114⅜	121⅜	101
Standard of Nebraska	100	48⅜	48½	†51⅛	†42	270	231	262	198
Standard of New York	25	34⅜	32	47¼	31⅝	48⅝	40	48	37⅜
Standard of Ohio, com.	100	•302	304½	362	292½	369	338	337½	277
Swan & Finch, com.	25	•16½	•16	21	18	27	12	28	20
Vacuum Oil	25	103⅜	102½	109⅝	94⅛	109½	80½	83⅛	50½
Miscellaneous									
Gulf Oil Corp. of Pa.	25	86	86⅛	93⅜	82½	98¼	63½	67⅜	56

•Bid, no sales. ‡Old stocks. †New stocks.

The Oil and Gas Journal's weekly average price of 20 representative petroleum stocks listed on the New York Stock Exchange was as follows:

Tide Water Associated	..	24⅝	24⅞	27	21	..	..	..	..	..
June 28	60.17	May 24	58.84	Apr. 19	55.63
June 21	59.91	May 17	57.63	Apr. 12	56.07
June 14	59.40	May 10	57.08	Apr. 5	56.78
June 7	58.92	May 3	57.23	Mar. 29	56.18
May 28	59.81	Apr. 26	57.39	Mar. 22	56.96

XUM



REFINERY AND CRUDE PRICES

Quotations on Principal Refined Products and Crude Petroleum Markets in All the American Oil Fields

GASOLINE AND NAPHTHA

	June 29		June 22		June 15	
OKLAHOMA (Group 3)—						
50-52 450 end point	.10⅝	.10¾	.11		.11¼	
56-58 450 end point	.10½	.10¾	.11	.11⅛	.11¼	.11½
58-60 450 end point	.10¾	.10¾	.11⅛	.11¼	.11½	
58-60 437 end point (U. S. Motor)	.10¾	.11	.11¼	.11⅜	.11½	.11¾
60 62 400 end point	.11¾	.12	.11¾	.12	.12	
64-66 375 end point	.12	.12¼	.12⅛	.12¼	.12¼	.12½
68-70 360 end point	.12½	.12¾	.12⅝	.12¾	.12¾	.13
KANSAS—						
58-60 437 end point (U. S. Motor)	.11¼	.11⅜	.11½	.12	.12	.12⅛
NORTH TEXAS—						
48-50 450 end point (Naphtha)	.10½	.10¾	.10¾	.11	.11	.11⅛
50-52 450 end point (Naphtha)	.10½	.10¾	.10⅞	.11⅛	.11	.11¼
56-58 450 end point	.10⅞	.10¾	.11	.11⅛	.11¼	.11⅜
58-60 437 end point (U. S. Motor)	.10¾	.11	.11⅛	.11⅜	.11½	.11¾
60-62 400 end point	.11¾	.12	.11¾	.12	.12	.12⅛
64-66 390 end point	.11⅞	.12	.12	.12⅛	.12¼	
64-66 375 end point	.12⅛	.12¼	.12¼	.12⅜	.12⅜	.12½
68-70 360 end point	.12½	.12⅝	.12½	.12¾	.12¾	
NORTH LOUISIANA—						
58-60 437 end point (U. S. Motor)	.11¾	.12	.12	.12¼	.12	.12¼
64-66 375 end point	.13	.13¼	.13	.13¼	.13	.13¼
ARKANSAS—						
58-60 437 end point (U. S. Motor)	.12	.12¼	.12¼	.12½	.12¼	.12½
64-66 375 end point	.12¾	.13	.13	.13⅛	.13	.13¼
ROCKY MOUNTAIN STATES—						
*58-60 437 end point (U. S. Motor)	.13¾	.14	.14¼	.14½	.14½	.14¾
PENNSYLVANIA—						
52 Naphtha	.13¼	.13½	.13¼	.13½	.13½	.13¾
54 Naphtha	.13½	.13¾	.13½	.13¾	.13¾	.14
56 Naphtha	.13¾	.14	.13¾	.14	.14	.14¼
58 Naphtha	.14	.14¼	.14	.14¼	.14½	.14¾
60 Gasoline	.14¼	.14½	.14¼	.14½	.14¾	.15
62 Gasoline	.14½	.14¾	.14½	.14¾	.15	.15¼
64 Gasoline	.14¾	.15	.14¾	.15	.15¼	.15½
66 Gasoline	.15¾	.16	.15¾	.16	.16	.16¼
68-70 Gasoline	.18¼	.18½	.18¼	.18½	.18¾	.19
CALIFORNIA—						
54-58 437 end point (U. S. Motor) domestic	.12½	.13	.12½	.13	.12½	.13
CHICAGO DISTRICT (Based on Group 3)—						
50-52 450 end point (Naphtha)	.10¾		.11	.11⅛	.11¼	
56 58 450 end point	.10⅝	.10¾	.11	.11¼	.11¼	.11⅜
58-60 437 end point (U. S. Motor)	.10¾	.11	.11¼	.11½	.11¾	
60-62 400 end point	.11⅜	.12	.11⅞	.12	.12	.12⅛
64-66 375 end point	.12⅛	.12¼	.12¼	.12⅜	.12¼	.12½
68-70 360 end point	.12¾		.12¾		.12¾	.13

*Colorado points.

NATURAL GASOLINE

	June 29		June 22		June 15	
OKLAHOMA (Group 3)—						
Grade AA, 80-87.9, 375 e.p., rec. 90%	.08¾	.08½	.08½	.08¾	.09¼	
Grade A, 72-79.9, 375 e.p., rec. 90%	.08⅝	.08½	.08½	.08¾	.09¼	
Grade BB, 84-92, 375 e.p., rec. 85%	.08⅛	.08¼	.08¼	.08½	.09	.09⅛
Grade B, 76-83.9, 375 e.p., rec. 85%	.08¼		.08¼	.08½	.09	.09⅛
Grade C, 80-90, 375 e.p., rec. 78%	.08		.08	.08¼	.09	
NORTH TEXAS—						
Grade AA, 80-87.9, 375 e.p., rec. 90%	.08½		.08½	.08¾	.09¼	
Grade A, 72-79.9, 375 e.p., rec. 90%	.08½		.08½	.08¾	.09¼	
Grade BB, 84-92, 375 e.p., rec. 85%	.08⅛	.08¼	.08¼	.08½	.09	
Grade B, 76-83.9, 375 e.p., rec. 85%	.08⅛	.08¼	.08¼	.08½	.09	.09⅛
Grade C, 80-90, 375 e.p., rec. 78%	.08		.08	.08¼	.08⅞	.09
NORTH LOUISIANA—						
Grade C, 80-90, 375 e.p., rec. 78%	.08½	.08¾	.09½	.09¾	.10	
CALIFORNIA—						
78-85 absorption, 360-390 end point	.15½	.16	.16	.16½	.16	.16½
78-84 compression, 350 end point	.15½	.16	.16	.16½	.16	.16½
CHICAGO DISTRICT (Based on Group 3)—						
Grade AA, 80-87.9, 375 e.p., rec. 90%	.08½		.09	.09⅛	.09¼	.09⅜
Grade A, 72-79.9, 375 e.p., rec. 90%	.08½		.09	.09⅛	.09¼	.09⅜
Grade BB, 84-92, 375 e.p., rec. 85%	.08¼		.08⅞	.09	.09	.09¼
Grade B, 76 83.9, 375 e.p., rec. 85%	.08¼		.08⅞	.09	.09	.09¼
Grade C, 80-90, 375 e.p., rec. 78%	.08	.08⅛	.08¾		.09	

MOTOR NATURAL GASOLINE (BLENDS)

	June 29		June 22		June 15	
OKLAHOMA (Group 3)—						
60-62 450 end point	.10¼	.10⅜	.10⅜	.11	.11¼	.11½
64-66 437 end point	.10½	.10¾	.11	.11¼	.11½	
NORTH TEXAS—						
64-66 437 end point	.10½		.11	.11⅛	.11¼	.11⅜
PENNSYLVANIA—						
*60-62	.13½	.13¾	.13½	.13¾	.13¾	.14
*64-66	.13¾	.14	.13¾	.14	.14	.14¼
*66-68	.13¾	.14	.13¾	.14	.14	.14¼
*68-70	.14	.14¼	.14	.14¼	.14¼	.14½
CHICAGO DISTRICT (Based on Group 3)—						
60-62 450 end point	.10¾	.11	.11		.11¼	
64 66 437 end point	.11	.11¼	.11	.11¼	.11½	.11¾

*As Sistersville, W. Va.

BURNING OIL

	June 29		June 22		June 15	
KANSAS—						
41-43 water white Kerosene	.07	.07¼	.07¾	.08	.08½	.08¾
OKLAHOMA (Group 3)—						
41-43 water white Kerosene	.05¾	.06	.06¾	.07	.08	
42-44 water white Kerosene	.06¼	.06½	.07¼		.08½	.09
NORTH LOUISIANA—						
41-43 prime white Kerosene	.07	.07¼	.07¾	.08	.09⅛	.09⅜
ROCKY MOUNTAIN STATES—						
*40-41 water white Kerosene	.09	.09¼	.09¾	.10	.11	.11⅛
NORTH TEXAS—						
41-43 water white Kerosene	.05¾	.06	.06½	.06¾	.08⅛	.08¼
ARKANSAS—						
41-43 water white Kerosene	.07¼	.07½	.08	.08¼	.08¾	.09
PENNSYLVANIA—						
43 Kerosene prime white	.09	.09¼	.10½	.10¾	.11	.11¼
45 Kerosene water white	.10	.10¼	.10¾	.11	.11¼	.11½
46 Kerosene water white	.10¾	.11	.11½	.11¾	.12	.12¼
47 Kerosene water white	.11¼	.11½	.12½	.12¾	.12¾	.13
34 Neutral	.07¼	.07½	.07¼	.07½	.08	.08¼
34 Sundebloom Neutral	.08½	.08¾	.08½	.08¾	.09	.09¼
36 Miners' Neutral	.06¾	.07	.06¾	.07	.07¼	.07½
300 Mineral Seal	.07¼	.07½	.08¼	.08½	.08½	
CALIFORNIA—						
38-40 water white (high burning test)	.07½	.08½	.07½	.08½	.07½	.08½
Engine distillate, 43-45 445 end point	.10¼	.10½	.10¼	.10½	.10¼	.10½
Engine distillate, 42-44 450 end point	.10	.10¼	.10	.10¼	.10	.10¼
CHICAGO DISTRICT (Based on Group 3)—						
41-43 water white Kerosene	.06⅛	.06¼	.06¾	.07	.08	.08½
42-44 water white Kerosene	.06½	.06⅝	.07¼	.07⅜	.08¾	.09

*Colorado points.

FUEL OILS

	June 29		June 22		June 15	
KANSAS—						
24-26 Fuel Oil	1.35	1.40	1.35	1.40	1.25	1.30
32-36 Gas Oil	.04¼	.04⅜	.04¼	.04⅜	.04¼	.04⅜
38-40 Distillate	.04½	.04⅝	.04½	.04⅝	.04½	.04⅝
OKLAHOMA (Group 3)—						
Below 22 Fuel Oil (sellers 'cars)	1.15	1.20	1.17½	1.20	1.20	
22-26 Fuel Oil (sellers' cars)	1.17½	1.20	1.20		1.20	1.25
24-26 Fuel Oil (sellers' cars)	1.20		1.20	1.22½	1.25	
26 30 Fuel Oil (sellers' cars)	1.25	1.27½	1.25	1.30	1.27½	1.30
28-30 Fuel Oil (sellers' cars)	1.30	1.32½	1.30	1.35	1.32½	1.35
32-36 Gas Oil (cracking stock)	.04		.04		.04	.04¼
36-38 Distillate	.04⅛	.04⅜	.04⅛	.04⅜	.04¼	.04⅜
38-40 Straw Distillate	.04⅜	.04⅝	.04⅜	.04⅝	.04⅜	.04½
NORTH TEXAS—						
24-26 Fuel Oil (sellers' cars)	1.22½	1.25	1.25		1.25	1.30
32-36 Gas Oil (straw)	.03⅞	.04	.04	.04⅛	.04	.04¼
38-40 Straw Distillate	.04¼		.04¼		.04¼	
NORTH LOUISIANA—						
18-20 Fuel Oil	1.35	1.40	1.35	1.40	1.30	1.35
32-36 Gas Oil	.04	.04¼	.04¼	.04½	.04¼	.04⅜
36-38 Distillate	.04¼	.04½	.04½	.04¾	.04½	.04⅝
ARKANSAS—						
38 40 Distillate	.04½	.04¾	.04½	.04¾	.04⅝	.04¾
32-36 Gas Oil	.04¼	.04½	.04¼	.04½	.04¼	.04½
16-20 Refinery Fuel Oil	1.20	1.25	1.20	1.25	1.20	1.25
GULF COAST (South Texas)—						
Gas Oil	.05½	.05¾	.05½	.05¾	.05½	.05¾
Fuel Oil	1.75	1.85	1.75	1.85	1.75	1.85
PENNSYLVANIA—						
30-34 Fuel Oil	.05½	.05¾	.05¾	.06	.06	.06¼
36-40 Fuel Oil	.06¼	.06½	.06½	.06⅝	.06½	.06¾
CALIFORNIA—						
33-35 Distillate	.04¾	.05	.04¾	.05	.04¾	.05
27-35 Distillate	.04	.04½	.04	.04½	.04	.04½
15-20 Fuel Oil (at tide water)	1.00	1.04	1.00	1 04	1.00	1.04
27 plus Diesel	1.15	1.19	1.15	1.19	1.15	1.19
CHICAGO DISTRICT (Based on Group 3)—						
24-26 Fuel Oil (sellers' cars) Group 3	1.20	1.25	1.25	1.30	1.27½	1.32½
22-26 Fuel Oil (sellers' cars)	1.20	1.22½	1.20	1.25	1 25	1.27½
18-22 (El Dorado)	1.20		1.17½	1.20	1.20	1.25
18 20 (Smackover)	1.20		1.20		1.20	1.22½
32-36 Gas Oil	.04	.04⅛	.04	.04⅛	.04	.04¼
36 38 Distillate	.04¼	.04⅜	.04¼	.04⅜	.04¼	
38-40 Straw Distillate	.04½	.04⅝	.04½	.04⅝	.04½	.04¾

LUBRICATING OILS AND WAX

	June 29		June 22		June 15	
OKLAHOMA (Group 3)—						
70-80 vis., 2½ color, 20-25 cold test	.06	.07	.06	.07	.06	.07
100 vis., 3 color, 20-25 cold test	.06½	.07	.06½	.07	.06½	.07
100 vis., 2 color, 20-25 cold test	.07	.07½	.07	.07½	.07	.07½
150 vis., 4 color, 20-25 cold test	.09¼	.09¾	.09¼	.09¾	.09¼	.09¾
150 vis., 3 color, 20-25 cold test	.09½	.10	.09½	.10	.09½	.10
180 vis., 4 color, 23-28 cold test	.10	.10½	.10	.10½	.10	.10½
180 vis., 3 color, 23-28 cold test	.10¼	.10½	.10¼	.10½	.10¼	.10½
200 vis., 4 color, 23-28 cold test	.11	.11½	.11	.11½	.11	.11½
200 vis., 3 color, 23-28 cold test	.11¼	.11½	.11¼	.11½	.11¼	.11½
220 vis., 4 color, 25-30 cold test	.14	.14½	.14	.14½	.14	.14½
220 vis., 3 color, 25-30 cold test	.14½	.15	.14½	.15	.14½	.15
240 vis., 4 color, 25-30 cold test	.14	.14½	.14	.14½	.14	.14½
240 vis., 3 color, 25-30 cold test	.14½	.15	.14½	.15	.14½	.15
280 vis., 4 color, 25-30 cold test	.15½	.16	.15½	.16	.15½	.16
280 vis., 3 color, 25-30 cold test	.16½	.17	.16½	.17	.16½	.17
180 vis., 5 color, 23-28 cold test	.09¾	.10¼	.09¾	.10¼	.09¾	.10¼
200 vis., 5 color, 23-28 cold test	.10¾	.11¼	.10¾	.11¼	.10¾	.11¼
220 vis., 5 color, 25 30 cold test	.14	.14½	.14	.14½	.14	.14½
240 vis., 5 color, 25-30 cold test	.13	.14	.13	.14	.13	.14
280 vis., 5 color, 25-30 cold test	.15½	.16	.15½	.16	.15½	.16
Cylinder Stocks:						
180-200 vis., S. R. green, 40-45 cold test	.08½	.11	.08½	.11	.08½	.11
190-200 vis., S. R. green, 40-45 cold test	.08	.08½	.08	.08½	.08	.08½
170-190 dark green, 40-45 cold test	.06	.06½	.06	.06½	.06	.06½
190-200 vis. @ 210 "D" Bright Stock	.33	.35	.33	.35	.33	.35
200-210 vis. @ 210 "E" Bright Stock	.30	.31	.30	.31	.30	.31
150 vis. @ 210 "E" Bright Stock	.27	.28	.27	.28	.27	.28
150 vis. @ 210 "D" Bright Stock	.28	.31	.28	.31	.28	.31
Waxes:						
122-124 White Crude Scale Wax	.04¾	.04⅞	.04¾	.04⅞	.04¾	.04⅞
PENNSYLVANIA—						
150, 3 color	.24½		.24½		.25½	
180, 3 color	.28		.28		.28½	
200, 3 color	.29½		.29½		.30½	
220, 3 color	.32		.32		.32	
600, steam refined	.14½		.14½		.15¾	
635, steam refined	.18		.18		.20	
650, steam refined	.20		.20		.21	
600, Pennsylvania flash	.26		.26		.26½	
630, Pennsylvania flash	.32½		.32½		.34	

REFINERY AND CRUDE PRICES

Quotations on Principal Refined Products and Crude Petroleum Markets in All the American Oil Fields

*550, E filtered	.19		.19		.19¼	
600, E filtered	.19½		.19¾		.20	
*600, E filtered	.20½		.21		.21	
600, D filtered	.26½		.26½		.26¾	
550, E filtered	.18		.18		.18½	.18¾
550, D filtered	.22		.22		.22¼	.22½
Pennsylvania Bright Stock	.41		.41		.41	
122-124 White Crude Scale Wax	.05⅛	.05¼	.05⅛	.05¼	.05⅛	.05¼
†124-126 White Crude Scale Wax	.05¼	.05⅜	.05¼	.05⅜	.05¼	.05⅜

*At Warren, Pa. †At New York City.

GULF COAST (South Texas)—						
Zero Black	.06	.07	.06	.07	.06	.07
No. 2 color, 100 vis., pale oil	.07½	.08	.07½	.08	.07½	.08
No. 3 color, 200 vis., pale oil	.11½	.12	.11½	.12	.11½	.12
No. 3½ color, 300 vis., pale oil	.12½	.13½	.12½	.13½	.12½	.13½
No. 3¾ color, 500 vis., pale oil	.14½	.15½	.14½	.15½	.14½	.15½
No. 4 color, 750 vis., pale oil	.18½	.19½	.18½	.19½	.18½	.19½
No. 2 plus color, 200 vis., pale filtered	.21½		.21½		.21½	
No. 2 color, 300 vis., pale filtered	.24½		.24½		.24½	
No. 2½ color, 500 vis., pale filtered	.27½		.27½		.27½	
No. 2½ color, 750 vis., pale filtered	.35½		.35½		.35½	
No. 5 to 6 color, 200 vis., red oil	.09½	.10	.09½	.10	.09½	.10
No. 5 to 6 color, 300 vis., red oil	.11½	.13	.11½	.13	.11½	.13
No. 5 to 6 color, 500 vis., red oil	.12½	.13½	.12½	.13½	.12½	.13½
No. 5 to 6 color, 750 vis., red oil	.16¼	.17½	.16¼	.17½	.16¼	.17½
CALIFORNIA—						
130 pale, 2½-3 color	.10	.11½	.10	.11½	.10	.11½
200 vis., 2½-3 color	.13½	.14½	.13½	.14½	.13½	.14½
300 vis., 3 -3½ color	.15	.16	.15	.16	.15	.16
350 vis., 3½-4 color	.16½	.17½	.16½	.17½	.16½	.17½
400 vis., 3½-4 color	.18	.19	.18	.19	.18	.19
Red Neutrals:						
200 vis., 4½-5 color	.12	.13	.12	.13	.12	.13
300 vis., 5 -6 color	.13	.14	.13	.14	.13	.14
400 vis., 5 -6 color	.15	.16	.15	.16	.15	.16
500 vis., 4½-5 color	.18	.19	.18	.19	.18	.19
500 vis., 6 -6½ color	.16	.17	.16	.17	.16	.17
600 vis., 6½ plus color	.17	.18	.17	.18	.17	.18

Note: Bright stocks are not manufactured commercially on the Pacific Coast.

NEW YORK (BAYONNE) REFINERY PRICES

Gasoline:	June 29	June 22	June 15
U. S. Motor, 58-60 437	.15	.15	.15
Export, 64-66 375	.17	.17	.17
Kerosene, prime white, 41-43	.09⅛	.09⅛	.09⅛
*Bunker Oil, 14-16, per bbl.	1.75	1 75	1.75
*Diesel Oil, 28-30, per bbl.	2.50	2.50	2.50
Gas Oil, 28 plus	.06¾	.06¾	.06¾
Cylinder Oil, light filtered, 600 s.r.	.29	.29	.29
Bright Stock, No. 5 150 vis., at 212 F.	.41	.41	.41
White Neutral, No. 1, 170 vis., 1 color	.37	.37	.37
Pale Oil, "25," 170 vis., 3½ color	.13	.13	.13
Pale Oil, "28," 100 vis., 2 color	.08	.08	.08
Red Oil:			
No. 3, 160 vis., 7 color	.11	.11	.11
No. 2, 212 vis., 5½ color	.12	.12	.12
No. 1, 265 vis., 5½ color	.13½	.13½	.13½
Polar, 295 vis., 6 color	.14	.14	.14
Paraffin Wax, refined:			
120-122 a.m.p., per lb.	.06	.06	.06
125-127 a.m.p., per lb.	.06⅛	.06⅛	.06⅛
130-132 a.m.p., per lb.	.06½	.06½	.06½
135-137 a.m.p., per lb.	.07	.07	.07
Petrolatum, in bbls., per lb.:			
Amber	.03⅛	.03⅛	.03⅛
Light amber	.03½	.03½	.03½
Cream	.05½	.05½	.05½
Lily white	.07¾	.07¾	.07¾
Snow white	.08¾	.08¾	.08¾

*Lighterage 5.5c a barrel extra.

NEW YORK CASE EXPORT PRICES

	June 29	June 22	June 15
Gasoline, U. S. Motor, 58-60	.29.40	.29.40	.29.40
Kerosene:			
Standard white	.19.40	.19.40	.19.40
Water white	.20.40	.20.40	.20.40

LOS ANGELES EXPORT PRICES

	June 29	June 22	June 15
Kerosene water white	.05½ .06½	.05½ .06½	.05½ .06½
U. S. Motor Gasoline, 54-56 437 e.p.	.10¾ .11	.10¾ .11	.11 .11¼

CRUDE OIL PRICES

OKLAHOMA, KANSAS AND NORTH TEXAS

***Prairie Oil & Gas Co.**
(Oklahoma, Kansas and North and East Central Texas)

28° to 28.9°	$1.65
29° to 29.9°	1.73
30° to 30.9°	1.81
31° to 31.9°	1.89
32° to 32.9°	1.97
33° to 33.9°	2.05
34° to 34.9°	2.13
35° to 35.9°	2.21
36° to 36.9°	2.29
37° to 37.9°	2.37
38° to 38.9°	2.45
39° to 39.9°	2.53
40° to 40.9°	2.61
41° to 41.9°	2.69
42° to 42.9°	2.77
43° to 43.9°	2.85
44° to 44.9°	2.93
45° to 45.9°	3.01
46° to 46.9°	3.09
47° to 47.9°	3.17
48° to 48.9°	3.25
49° to 49.9°	3.33
50° to 50.9°	3.41
51° to 51.9°	3.49
52° and above	3.57

*Other major purchasers except as noted below.

Champlin Refining Co.
(Garber and Tonkawa)
Schedule based on Prairie Oil & Gas Co. paying 10 cents additional for each grade of crude above 38° gravity.

Humble Oil & Refining Co.
(North and East Central Texas, Ranger, Mexia, Powell, Richland, Wortham, Currie, Moran, Big Lake, Nacona and Lytton Springs)
Same prices as Prairie Oil & Gas Co. schedule. Postings below 28 gravity, 8 cents less for each degree.

Magnolia Petroleum Co.
(Oklahoma, Kansas and North and East Central Texas, except Corsicana heavy, and Lytton Springs of South Central Texas)

Below 28°	$1.30
Other grades same as Prairie Oil & Gas Co.	
Iatan	$1.15
Corsicana heavy	1.25
Panola County:	
30° to 34.9°	$1.95
35° to 37.9°	2.10
38° and above	2.25

Texhoma Oil & Refining Co.
(Wichita Falls, Tex., District)

Below 32°	1.94
32° to 32.9°	2.02
33° to 33.9°	2.10
34° to 34.9°	2.18
35° to 35.9°	2.26
36° to 36.9°	2.34
37° to 37.9°	2.42
38 to 38.9°	2.50
39° to 39.9°	2.60
40° to 40.9°	2.66
41° to 41.9°	2.74
42° to 42.9°	2.82
43° to 43.9°	2.90
44° and above	2.98

TEXAS PANHANDLE

Kay County Gas Co.
Magnolia Petroleum Co.

28° to 28.9°	$1.35
29° to 29.9°	1.40
30° to 30.9°	1.45
31° to 31.9°	1.50
32° to 32°9	1.55
33° to 33.9°	1.60
34° to 34.9°	1.65
35° to 35.9°	1.70
36° to 36.9°	1.75
37° to 37.9°	1.80
38° to 38.9°	1.85
39° and above	1.90

Humble Oil & Ref. Co.

39° to 39.9°	1.90
40° to 40.9°	1.95
41° to 41.9°	2.00
42° to 42.9°	2.05
43° to 43.9°	2.10
44° and above	2.15

Grades below 39 gravity same as posted by Magnolia Petroleum Co. and Kay County Gas Co.

GULF COAST

***Humble Oil & Refining Co.**

Grade A	$1.60
Grade B—	
Below 25°	1.50
25° to 25.9°	1.55
26° to 26.9°	1.60
27° to 27.9°	1.65
28° to 28.9°	1.70
29° to 29.9°	1.75
30° to 30.9°	1.80
31° to 31.9°	1.85
32° to 32.9°	1.90
33° to 33.9°	1.95
34° to 34.9°	2.00
35° and above	2.05
Boling	1.50
High Island (The Sun Co.)	1.40

The Texas Company

Grade A	$1.60
Grade B	1.50
†Light crude—	
35° to 35.9°	2.05
36° to 36.9°	2.10
37° to 37.9°	2.15
38° to 38.9°	2.20
39° to 39.9°	2.25
40° and above	2.30

†The Texas Company's postings on light crude under 35° gravity are same as Humble Oil & Refining Co.'s grades and prices for Grade B crude.

*The Sun Pipe Line Co.'s postings same as Humble's.

SOUTH CENTRAL AND SOUTHWEST TEXAS

***Magnolia Petroleum Co.**

Luling (contract)	$1.30
Mirando (Webb, Jim Hogg and Zapata Counties)	1.25
Rockdale-Minerva (Milam County)	1.25
Thrall	1.00
Calliham (Live Oak and McMullen Counties)	1.75
‡Lockhart (Lytton Springs)	
Somerset (Grayburg Pipe Line Co.):	
28° to 28.9°	1.25
29° to 29.9°	1.35
30° to 30.9°	1.71
31° to 31.9°	1.89
32° to 32.9°	1.97
33° to 33.9°	2 05
34° to 34.9°	2.13
35° to 35.9°	2.20
36° to 36.9°	2.29
37° to 37.9°	2.37
38° and above	2.45

*Texpata Pipe Line Co. and Humble Pipe Line Co. also post in Mirando Field paying same prices as Magnolia Petroleum Co.

‡Lockhart prices same as for North and East Central Texas. Lockhart posted by Magnolia Petroleum Co. and Humble Oil & Refining Co.

ARKANSAS AND NORTH LOUISIANA

Standard Oil Co. of Louisiana

Caddo below 32°	2.10
32° to 34.9°	2.25
35° to 37.9°	2.35
38° and above	2.45
Homer below 31°	1.85
31° to 32.9°	2.00
33° to 34.9°	2.10
35° and above	2.20
Haynesville below 33°	2.00
33° and above	2.10
El Dorado below 33°	2.00
33° to 34.9°	2.10
35° to 36.9°	2.20
37° and above	2.30
Bull Bayou, 32° to 34.9°	1.95
35° to 37.9°	2.10
38° and above	2.25
Cotton Valley	1.20
DeSoto	2.30
Crichton	2.10
Bellevue	1.50
Smackover, below 24°	1.10
24° to 24.9°	1.35
25° to 25.9°	1.40
26° to 26.9°	1.45
27° and above	1.50
*Stephens, Ark., below 26°	1.45
26° and above	1.65
†Calion (East El Dorado)	.95
‡Urania	1.15

The Texas Company

Caddo:	
Below 26°	$1.40
26° to 28.9°	1.55
29° to 31.9°	1.70
32° to 34.9°	2.25

Other grades same as Standard Oil Co. of Indiana.

Other companies posting in these fields are: Gulf Pipe Line Co.; Atlantic Oil Producing Co. in Homer, Haynesville, El Dorado and Smackover; The Texas Company in Caddo, Bull Bayou, DeSoto, Crichton and Smackover.

*Posted by the Atlantic Oil Producing Co. †Posted by the Gulf Pipe Line Co. ‡Posted by the Louisiana Oil Refining Corp.

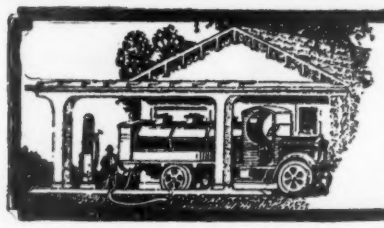
ROCKY MOUNTAIN STATES

Ohio Oil Co.—Midwest Refining Co.

Rock Creek, (Wyo.)	$2.25
Salt Creek—	
29° to 29.9°	1.73
30° to 30.9°	1.81
31° to 31.9°	1.89
32° to 32.9°	1.97
33° to 33.9°	2.05
34° to 34.9°	2.13
35° to 35.9°	2.21
36° to 36.9°	2.29
37° and above	2.37
Big Muddy	2.25
Mule Creek	1.75
Grass Creek, light	2.40
Grass Creek, heavy	.90
Elk Basin	2.40
Lance Creek	2.40
Rex Lake	1.45
Osage	2.40
Lost Solider (contract)	1.35
Greybull-Torchlight	2.15
Hamilton Dome	1.35
Cat Creek (Mont.)	2.40
Sunburst (Mont.)	1.05
Florence (Colo.)	1.60
Artesia	1.95

(Continued on Page 136)

XUM



TANK WAGON MARKETS

Tankwagon quotations for gasoline and kerosene in United States as furnished by the larger marketing concerns, June 29.

ALL TANK WAGON AND SERVICE STATION QUOTATIONS INCLUDE TAXES

STANDARD OIL CO. (INDIANA)
Main Service Station Price

	Gasoline: Tank wagon	Gasoline: Service station	Gasoline: Incids tax of	Kero. Tank wagon
Chicago Dist.— †Less than 100 gals.	19.0	21.0	...	15.5

Tank wagon prices on April 19, 1922; g. up 1½c; May 8, up 1c; June 27, g. and k. up 1c; July 19, g. down 2c, k. down 1c; Oct. 10, g. down 2c; Oct. 21, g. down 1c; Feb. 5, 1923, g. up 1c; Feb. 20, g. up 1c; Aug. 14, g. down 6.6c; Oct. 4, k. down 1½c; Nov. 10, g. down 1.4c; Dec. 20, g. up 2c; Jan. 12, 1924, g. up 2c; k. up 1c; Feb. 5, g. up 2c, k. 1c; July 18, g. down 1c; July 30, g. and k. down 1c; Sept. 12, g. down 2c; Jan. 23, 1925, g. up 1c; Jan. 26, g. up 1c; Jan. 31, g. up 1c; Feb. 12, g. up 2c, k. up 1c; April 19, g. down 1c; July 14, g. up 1c; Aug. 25, g. down 2c, k. down 1c; Sept. 1, g. down 1c; Feb. 4, 1926, g. up 1c, k. up 1c; April 16, 1926, k. up 1c; April 24, 1926, k. up ½c; April 29, 1926, g. up 1c, k. up ½c; May 6, 1926, k. up ½c May 17, g. and k. up 1c.

Decatur, Ill.	19.2	21.2	...	16.0
East St. Louis	18.1	20.35	...	15.1
Joliet	19.4	21.4	...	16.2
Peoria	19.2	21.2	...	16.0
Quincy	19.2	21.2	...	15.8
Davenport, Ia.	21.5	23.5	2.0	16.4
Des Moines	21.5	23.5	2.0	16.4
Keokuk	21.5	23.5	2.0	16.4
Sioux City	21.0	23.0	2.0	16.0
Duluth, Minn	22.5	24.5	2.0	17.1
Minneapolis	22.2	24.2	2.0	17.1
La Crosse, Wis.	22.2	24.2	2.0	16.9
Milwaukee	21.1	23.1	2.0	15.8
Madison	21.3	23.3	2.0	16.0
Detroit, Mich.	21.8	23.8	2.0	16.7
Grand Rapids	21.7	23.7	2.0	16.5
Saginaw	21.9	23.9	2.0	16.8
Evansville, Ind.	22.0	24.0	3.0	16.0
Fort Wayne	22.4	24.4	3.0	16.4
Indianapolis	22.2	24.2	3.0	16.2
South Bend	22.4	24.4	3.0	16.4
Fargo, N. D.	22.9	24.9	1.0	19.1
Huron, S. D.	23.5	25.5	3.0	17.6
Sioux Falls	22.0	24.0	3.0	17.1
*K. C., Mo.	21.9	23.9	3.0	14.8
*Springfield	21.8	23.8	3.0	15.7
*St. Louis	20.6	22.9	2.5	15.5
*St. Joseph	21.0	23.0	2.5	15.4
‡Wichita, Kan.	19.8	21.8	2.0	15.4
Bartlesville, Ok.	20.8	22.8	3.0	15.3

*State tax is 2c. Remainder is city tax.
†Quantity price on more than 100 gallons, 18.0.
‡At all Kansas points a discount of 1 cent a gallon is allowed from the tank wagon postings on dumps of 50 gallons or more.

The following monthly rebate system is effective on tank wagon schedules throughout the territory of Standard Oil Co. of Indiana: Over 750 gallons, ½c; over 2,000 gallons, ¾ cent; over 3,000 gallons, 1 cent; over 6,000 gallons, 1¼ cents; over 10,000 gallons, 2 cents. If quantity bought during the year is equal to 12 times the monthly agreed purchases the discount will be paid or credited on the entire quantity less monthly payments. Service station customers will receive discount of 1 cent a gallon on purchases amounting to 200 gallons a month or 2,400 gallons a year; and 2 cents a gallon on 600 gallons a month or 7,200 gallons a year.

SOUTHWESTERN DISTRICT
***Magnolia Petroleum Co.**

	Gasoline: Tank wagon	Gasoline: Service station	Gasoline: Incids tax of	Kero. Tank wagon
Dallas, Tex.	†21.0	21.0	1.0	15.0
Fort Worth	†21.0	21.0	1.0	15.0
Houston	†21.0	21.0	1.0	15.0
San Antonio	†21.0	21.0	1.0	15.0
El Paso	†22.0	22.0	1.0	16.0
Texarkana	†20.0	20.0	1.0	15.0
Muskogee, Ok.	20.0	23.0	3.0	16.0
Oklahoma City	17.0	20.0	3.0	16.0
Tulsa	20.0	23.0	3.0	16.0
Little Rock	22.0	25.0	4.0	16.5
Ft. Smith, Ark.	22.0	25.0	4.0	16.5

*The following is the schedule of discounts on quantity gasoline sales adopted by the Magnolia Petroleum Co. in Oklahoma: Over 750 gallons a month, ½ cent; over 2,000 gallons, ¾ cent; over 3,000 gallons, 1 cent; over 4,500 gallons, 1¼ cents; over 6,000 gallons, 1½ cents; over 8,000 gallons 1¾ cents; over 10,000 gallons, 2 cents. If the quantity bought during the year is 12 times the monthly agreed purchases, the discount will be paid or credited on the entire quantity for the year less any monthly purchases.

The schedule on service station deliveries is: Over 200 gallons a month, 1 cent; over 300 gallons a month 1¼ cents; over 400 gallons, 1½ cents; over 500 gallons, 1¾ cents; over 600 gallons, 2 cents. The same rule applies for annual purchases as in the tank wagon discounts.

†Magnolia maintains only a retail schedule in Texas with dealers and large consumers allowed a flat 3-cent discount.

CENTRAL SOUTH DISTRICT
Standard Oil Co. (Louisiana)

	Gasoline: Tank wagon	Gasoline: Service station	Gasoline: Incids tax of	Kero. Tank wagon
*New Orleans	20.5	23.5	3.0	15.0
Alexandria	20.0	23.0	2.0	16.0
Baton Rouge	19.0	22.0	2.0	14.5
LaFayette	20.0	23.0	2.0	15.5
Lake Charles	20.5	23.5	2.0	16.0
Shreveport, La.	19.0	22.0	2.0	15.0
Memphis, Tenn.	21.0	24.0	3.0	17.0
Chattanooga	23.0	25.0	3.0	17.5
Knoxville	23.0	26.0	3.0	18.0
Nashville	22.0	25.0	3.0	18.0
Bristol	23.5	26.5	3.0	17.5
Little Rock Ark	22.0	25.0	4.0	16.5

*Tax of 3 cents includes city tax of 1 cent.

SOUTHERN DISTRICT
Standard Oil Co. (Kentucky)

	Gasoline: Tank wagon	Gasoline: Service station	Gasoline: Incids tax of	Kero. Tank wagon
Atlanta, Ga.	25.0	28.0	3.5	19.0
Augusta	25.0	28.0	3.5	19.0
Macon	25.0	28.0	3.5	19.0
Savannah	23.0	25.0	3.5	17.0
Birm'gham, Ala	22.0	25.0	2.0	18.5
Mobile	21.0	24.0	2.0	17.0
*Montgomery	23.0	26.0	3.0	19.5
Clarksdale, Miss	23.0	26.0	4.0	16.5
Jackson	23.0	26.0	4.0	16.5
Natchez	22.5	25.5	4.0	16.0
Vicksburg	22.5	25.5	4.0	16.0
Jack'ville, Fla.	23.0	26.0	4.0	18.0
Miami	25.0	28.0	4.0	19.5
Pensacola	23.0	25.0	4.0	18.5
Tampa	23.0	26.0	4.0	18.0
Covington	24.0	27.0	5.0	18.0
Louisville	25.0	28.0	5.0	17.0
Lexington, Ky.	25.0	28.0	5.0	18.0

*In addition to the state tax of 2 cents on gasoline, Montgomery has city tax of 1 cent on gasoline and ½ cent on kerosene. Prices in Georgia include ½ cent inspection fee on gasoline and kerosene: in Florida, an inspection fee of 0.125 cent; in Alabama, an inspection fee of ½ cent on kerosene only.

ATLANTIC COAST DISTRICT
Standard Oil Co. (New Jersey)

	Gasoline: Tank wagon	Gasoline: Service station	Gasoline: Incids tax of	Kero. Tank wagon
Atlantic City	19.0	....	...	16.0
Newark, N. J.	19.0	21.0	...	16.0
Anapolis, Md.	21.0	....	2.0	16.0
Baltimore	21.0	24.0	2.0	16.0
Cumberland	21.0	24.0	2.0	16.0
Washington	21.0	24.0	2.0	16.0
Danville, Va.	23.5	....	4.5	16.0
Norfolk	23.5	26.5	4.5	16.0
Petersburg	23.5	26.5	4.5	16.0
Roanoke	23.5	26.5	4.5	16.0
Richmond	23.5	26.5	4.5	16.0
Charleston, W. Va.	22.5	25.5	3.5	16.0
Keyser	22.5	....	3.5	16.0
Parkersburg	22.5	25.5	3.5	16.0
Wheeling	22.5	25.5	3.5	16.0
Charlotte, N. C.	23.5	26.5	4.0	16.0
Hickory	23.5	....	4.5	16.0
Mt. Airy	23.5	26.5	4.0	16.0
Salisbury	23.5	26.5	4.0	16.0
Charleston, S.C.	24.5	27.5	5.0	16.0
Columbia	24.5	27.5	5.0	16.0

NEW YORK AND PART OF NEW ENGLAND DISTRICT
Standard Oil Co. (New York)

	Gasoline: Tank wagon	Gasoline: Service station	Gasoline: Incids tax of	Kero. Tank wagon
Albany, N. Y.	21.0	....	...	17.0
*New York	21.0	....	...	17.0
Buffalo	20.0	....	...	17.0
Rochester	21.0	....	...	16.0
Syracuse	21.0	....	...	17.0
Boston, Mass.	21.0	....	...	17.0
Augusta, Me.	24.0	....	3.0	17.0
Manchester, N. H.	23.0	....	2.0	17.0
Burlington, Vt.	23.0	....	2.0	17.0

*Price in steel barrels.
Note: Standard Oil Co. of New York does not generally quote service station price in its territory. In most cases the service station price is 2 or 3 cents higher than tank wagon price.

PENNSYLVANIA-DELAWARE AND PART NEW ENGLAND
Atlantic Refining Co.

	Gasoline: Tank wagon	Gasoline: Service station	Gasoline: Incids tax of	Kero. Tank wagon
*Pittsburgh, Pa.	20.0	25.0	...	17.0
*Philadelphia	20.0	25.0	...	17.0
*Scranton	20.0	25.0	...	17.0
*Allentown	20.0	25.0	...	17.0
Altoona	20.0	25.0	...	17.0
*Erie	20.0	25.0	...	17.0
Dover, Del.	22.0	25.0	2.0	17.0
Wilmington	22.0	25.0	2.0	17.0
Springf'd, Mass.	21.0	23.0	...	17.0
Worcester	21.0	24.0	...	17.0
Boston	21.0	24.0	...	17.0
Providence, R.I.	22.0	24.0	1.0	17.0
Hartford, Conn.	23.0	26.0	2.0	16.0
New Haven	23.0	26.0	2.0	17.0

*Pennsylvania tax of 2 cents is collected by the dealer and paid by him direct to the State.

OHIO
Standard Oil Co. (Ohio)

	Gasoline: Tank wagon	Gasoline: Service station	Gasoline: Incids tax of	Kero. Tank wagon
All Ohio points	22.0	24.0	2.0	17.0

PACIFIC COAST DISTRICT
Standard Oil Co. (California)

	Gasoline: Tank wagon	Gasoline: Service station	Gasoline: Incids tax of	Kero. Tank wagon
San Francisco	18.0	22.0	2.0	15.5
Los Angeles	16.5	20.5	2.0	15.5
Fresno	18.5	22.5	2.0	17.5
Reno, Nev.	23.5	27.5	4.0	19.0
Portland, Ore.	19.0	23.0	3.0	16.5
Seattle, Wash.	18.0	22.0	2.0	16.5
Spokane	22.0	26.0	2.0	20.5
Tacoma	18.0	22.0	2.0	16.5
Phoenix, Ariz.	25.0	28.0	3.0	21.5

CALIFORNIA
***Standard Oil Co.-Union Oil Co.**

Gravity—	Long Beach Huntington Beach Richfield Brea-Olinda Rosecrans-Dom'gues Torrance-Inglewood	Whittier La Habra Montebello	Kern River Newhall-McKittrick Midway-Sunset Elk Hills Lost Hills Belridge	Coyote	Santa Fe Springs	Coalinga	Wheeler Ridge	Santa Maria Ventura Salt Lake
14°	.85	.85	.75	.85	....	.75	.75	.85
15°	.87	.85	.75	.85	....	.75	.75	.85
16°	.90	.85	.75	.85	....	.75	.75	.85
17°	.94	.85	.75	.85	....	.75	.75	.85
18°	.98	.86	.75	.86	....	.75	.75	.85
19°	1.04	.87	.75	.87	....	.75	.75	.85
20°	1.10	.89	.82	.90	.89	.79	.78	.90
21°	1.16	.91	.90	.98	.91	.86	.81	.97
22°	1.22	.94	1.00	1.06	.94	.92	.85	1.04
23°	1.28	.97	1.11	1.14	.97	1.00	.89	1.11
24°	1.34	1.01	1.22	1.22	1.02	1.07	.93	1.18
25°	1.40	1.05	1.33	1.30	1.08	1.14	.97	1.25
26°	1.46	1.09	1.44	1.38	1.16	1.21	1.01	1.32
27°	1.52	1.13	1.55	1.46	1.24	1.28	1.05	1.39
28°	1.58	1.17	1.66	1.54	1.32	1.35	....	1.46
29°	1.64	1.21	1.77	1.62	1.40	1.42	....	1.53
30°	1.70	1.26	1.88	1.70	1.48	1.49	....	1.60
31°	1.76	....	1.99	....	1.60	1.56	....	1.67
32°	1.84	....	2.10	....	1.72	1.63	....	1.73
33°	1.92	....	2.21	....	1.84	1.70	....	1.79
34°	2.00	....	2.32	....	1.96	1.77	....	1.85
35°	2.08	....	....	....	2.08	1.84	....	1.92
36°	2.16	....	....	....	2.16	....	....	....
37°	2.24	....	....	....	2.24	....	....	....
38°	2.34	....	....	....	2.34	....	....	....
39°	2.44	....	....	....	2.44	....	....	....
40°	2.54	....	....	....	....	....	....	....
41°	2.64	....	....	....	....	....	....	....
42°	2.74	....	....	....	....	....	....	....

*Column 2—Long Beach and Huntington Beach crudes, 14 to 32 degrees, inclusive; Richfield and Brea-Olinda, 14 to 30 degrees; Torrance and Inglewood, 14 to 28; Dominguez, 24 to 42 degrees. Rosecrans crude ranges from 14 to 42 degrees, but only Union Oil Co. posts below 24 degrees.
Column 3—Whittier and La Habra crudes, 14 to 22 degrees; Montebello, 14 to 30 degrees.
Column 4—Kern River, Newhall and McKittrick, 14 to 19 degrees; Midway-Sunset and Elk Hills, 14 to 33 degrees; Lost Hills and Belridge, 14 to 34 degrees.
Column 6—Santa Fe Springs. Only Union Oil Co. posts below 24 degrees.
Column 9—Salt Lake, 14 to 19 degrees, inclusive; Santa Maria, 14 to 30 degrees; Ventura, 14 to 35 degrees. Posted only by Union Oil Co.

NEBRASKA
Standard Oil Co. (Nebraska)

	Gasoline: Tank wagon	Gasoline: Service station	Gasoline: Incids tax of	Kero. Tank wagon
Omaha	21.25	23.25	2.0	16.0
McCook	22.75	24.75	2.0	17.5
Norfolk	21.75	23.75	2.0	16.5
North Platte	22.75	24.75	2.0	17.25
Scottsbluff	22.25	24.25	2.0	17.75

ROCKY MOUNTAIN DISTRICT
Continental Oil Co.

	Gasoline: Tank wagon	Gasoline: Service station	Gasoline: Incids tax of	Kero. Tank wagon
Denver, Colo.	22.0	22.0	2.0	19.0
Pueblo	22.0	24.0	2.0	19.0
Casper, Wyo.	22.5	24.5	2.5	17.5
Cheyenne	23.5	25.5	2.5	19.0
Butte, Mont.	24.0	24.0	2.0	21.0
Helena	26.0	28.0	2.0	21.0
Salt Lake, Utah	26.0	28.0	3.5	19.0
Boise, Idaho	27.0	29.0	3.0	21.0
Albuquerque, N. Mex.	29.5	29.5	3.0	21.0

STANOLIND FURNACE OIL
(Standard Oil Co. of Indiana)

1 to 49 gallons	11.0
50 to 399 gallons	10.0
400 to 849 gallons	9.5
850 or more gallons	9.0

TANKWAGON PRICE CHANGES

June 29.—Standard Oil Co. of Kentucky reduced kerosene 1 cent throughout its territory except in Florida, where a 1-cent reduction will not be effective before July 1.

PETROLEUM IN TAMAULIPAS

Based upon the studies made by the Mexican National Geological Institute, an oil company located at the border is reported to have found petroleum pools in the north section of the State of Tamaulipas.

CRUDE OIL PRICES

(Continued from Page 135)

Hogback (N. M.)	2.45

Note: Salt Creek, Osage, Cat Creek, Greybull and Hogback posted by Midwest Refining Co., and the remainder by the Ohio Oil Co. Both companies post Grass Creek light and Elk Basin.

EASTERN STATES
Joseph Seep Purchasing Agency

Penna Grade Oil in New York Transit Lines (New York)	$3.65
Bradford District Oil in National Transit Lines (Pennsylvania)	3.65
Penna Grade Oil in National Transit Lines (Pennsylvania)	3.55
Penna Grade Oil in Southwest Pa. Line Lines (West Virginia)	3.55
Penna Grade Oil in Eureka Pipe Line Lines (Pennsylvania)	3.50
Penna Grade Oil in Buckeye Pipe Line Lines (Ohio)	3.30
Cabell Grade Oil in Eureka Pipe Line Lines (West Virginia)	2.40
Corning Grade Oil in Buckeye Pipe Line Lines (Ohio)	2.55
Somerset Medium Oil in Cumberland Pipe Line Lines (Kentucky)	2.50
Somerset Light Oil in Cumberland Pipe Lines (Kentucky)	2.65
Ragland Grade Oil in Cumberland Pipe Line Lines (Kentucky)	1.25
Gaines (Pennsylvania)	3.10
Keister (Pennsylvania)	2.45

MIDDLE WESTERN STATES
Ohio Oil Co.

Lima	2.48
Wooster	2.55
Illinois	2.37
Indiana	2.25
Princeton	2.37
Plymouth	1.90
Waterloo	1.35
*Western Kentucky, 32.9° and below	2.10
33° to 35.9°	2.20
36° to 38.9°	2.30
39° and above	2.40
†Cumberland, Barren and Monroe Counties	2.65
§Oil Springs (Canada)	2.95
§Petrolia (Canada)	2.88

*Posted by Indian Refining Co.
†Posted by Paragon Development Co.
§Posted by Imperial Oil Co., Ltd.

MEXICO

*Tuxpam light (f.o.b. Mex. ports)	$1.35
§Panuco heavy (f.o.b. Mex. Ports)	1.15
Tuxpam (New York)	2.15
Panuco (New York)	1.80

*Plus 32.328c tax. §17.631c tax.

WAR on WASTE!

THE SINCLAIR LAW OF LUBRICATION

for every machine
of every degree of
wear
there is a scientific
Sinclair Oil
to suit its speed
and seal its power

SINCLAIR OILS
REG U.S. PAT. OFF.

A POWERFUL weapon in Sinclair's "War on Waste" is the Sinclair Law of Lubrication. This law tells the motorist that his engine has a "*degree of wear*" which requires just the right grade of oil "to suit its speed and seal its power". And he should change the lubricating oil in his car to fit its changing "degree of wear".

In following this Law of Lubrication, Sinclair dealers are rendering a real service to motorists. There is a science behind it—there's a real service behind it. There is a "War on Waste" behind it—a war on inefficient and destructive operation of machinery. Sinclair Opaline Motor Oil increases the efficiency and prolongs the life of the engine! It helps the motorist maintain economical transportation.

Why not increase your gallonage, by using this common-sense method of motor-oil recommendation?

SINCLAIR REFINING CO.
45 Nassau Street, New York

Atlanta Chicago Detroit Houston Kansas City Omaha

[*1916-26—Ten years of manufacturing and distributing petroleum products of quality*]

SINCLAIR
OPALINE
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MOTOR OIL

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APPROVE CHANGES RECOMMENDED BY D-2

(Continued from Page 30)

secured have been filed in the office of the society. These data show that, notwithstanding the fact that co-operating analysis have deviated in some cases from the recommended procedure, the average deviation in results is relatively sma'l, and it is felt that the method, when properly used, will give results that are entirely satisfactory.

Recommended Revision

The committee recommends certain changes in the following tentative methods of test, and upon approval of these revisions, that they be continued as tentative.

1. Tentative Method of Test for Penetration of Grease.—The revisions recommended, as submitted by subcommittee IV on Grease are as follows:

The diagram of the grease cone should be changed in certain minor respects, mainly in the interest of greater clarity. These changes for the most part were suggested by the gauge section of the United States Bureau of Standards and transmitted by Doctor Herschel.

2. Tentative Methods of Test for Analysis of Grease.—A slight revision is recommended as follows:

Change the specified concentration of alcohol from 70 per cent to 50 per cent, in order to eliminate some difficulties in determining the alkalinity of lime greases.

3. Tentative Method of Test for Sulphur in Naphthas and Illuminating Oils.—The following revision is recommended, consisting of the addition of a footnote reference to the present paragraph on scope, the footnote to read as follows:

"If high volatility motor fuels are tested by this method, and especially if they contain benzol, it is very important that the suction be regulated so that the height of the flame is not more than one-fourth inch."

4. Tentative Method of Test for Distillation of Gasoline, Naphtha, Kerosene and Similar Petroleum Products.—Recommended revisions as follows:

Section 8. (d).—Add the following sentence:

"The thermometer shall be approximately at room temperature when placed in the flask."

Section 9.—Insert the following between the first and second sentences of the first paragraph:

"The distillation thermometer shall be read two minutes after heat is applied and the indication recorded as the 'correction temperature.' This figure is of significance only in cases when there is a question as to the accuracy* of the initial boiling point, as subsequently determined."

*The initial boiling point is one of the observations which it is customary to report as indicative of the quality of gasoline. It is a point which is very difficult to check, especially when duplicate tests are made at different room temperatures, and it has not been found practical to devise an accurate method of correcting for this unavoidable variation in operating conditions. The practical significance of initial boiling point is not regarded as sufficient to warrant requiring that tests be conducted under regulated conditions of room temperature. The following directions are included as an expedient intended to obviate some of the difficulties that develop on account of the practice of including initial boiling point limits in specifications for the purchase and sale of gasoline:

If the "correction temperature" is below 70 degrees Fahrenheit (21 degrees Centigrade) or above 80 degrees Fahrenheit (27 degrees Centigrade), the observed initial boiling point, if it is below 150 degrees Fahrenheit (66 degrees Centigrade), may be considered incorrect by an amount not less than one-third the difference between the "correction temperature" and 75 degrees Fahrenheit (25 degrees Centigrade.) In case there is a dispute between buyer and seller, the observed initial boiling point figures obtained by all parties shall be revised according to the following fomula:

$$\text{Revised initial boiling point} = \text{observed initial boiling point} - \frac{\text{Correction Temperature (deg. Fhr.)} - 75}{3}$$

If all of the revised figures fall within the specification limit the gasoline in question shall be considered as passing; otherwise arrangements shall if possible be made to conduct a distillation test with the room temperature maintained between the limits of 70 and 80 degrees Fahrenheit (21 and 27 degrees Centigrade) inclusive.

Section 9.—At the end of the first paragraph add the following:

"If preferred, the reading of the distillation thermometer may be observed and recorded when the level of the distillate reaches each 10-cc. mark on the graduate. In case a product is being tested to ascertain whether or not it conforms with a given specification, all necessary observations shall be made and recorded, whether or not they are included in the series ordinarily employed by the laboratory making the test."

Section 10.—Add to this section the following:

"Duplicate readings of the volume of distillate collected in the cylinder when each of the prescribed temperature points is reached should not differ from each other by more than 2 cc. In case observations are made on the basis of prescribed percentage points, the differences in temperature readings should not exceed the amounts equivalent to 2 cc. of distillate at each point in question."

5. Tentative Method of Test for Neutralization Number of Petroleum Products and Lubricants.—The revision recommended is a footnote to read as follows:

"When the oil is acid, the acidity shall not be reported as sulphuric or hydrochloric acid, unless the presence of these acids shall have been confirmed by tests."

6. Tentative Method of Test for Burning Quality of Long-Time Burning Oil for Railway Use.—A slight modification of this method is recommended as follows:

Section 5.—In the first line of this section, omit the word "Macbeth" and add the following as a footnote to the words "55-D Chimney:"

"This term, '55-D Chimney,' is fully descriptive with glass manufacturing companies as the long-time burner chimney covered by these specifications."

Advancement of Tentative Standard

The committee recommends for submission to letter ballot of the society, for adoption as standard, the Tentative Method of Test for Viscosity of Petroleum Products and Lubricants (D 88—25 T) with a slight rearrangement of the material in Section 4 on procedure, and with the addition of a footnote regarding the pipette for draining the overflow cup.

Section 4.—Change to read as follows:

"In tests at 100 and 130 degrees Fahrenheit (37.8 and 54.4 degrees Centigrade) the bath temperature throughout the test shall not vary more than, plus or minus, 0.1 degree Fahrenheit (0.06 degrees Centigrade) from the predetermined temperature which will maintain thermal equilibrium as long as the oil is well stirred with the thermometer. In tests at 210 degrees Fahrenheit (98.9 degrees Centigrade) a variation of, plus or minus, 0.2 degrees Fahrenheit (0.11 degrees Centigrade) is permitted.

"Any construction of bath may be employed provided the bath temperature necessary to maintain thermal equilibrium (while the oil in the oil tube is well stirred by the oil tube thermometer) is not in excess of 100.25, 122.35, 130.50 and 212.00 degrees Fahrenheit (37.9, 50.2, 54.7 and 100.000 degrees Centigrade), respectively, for the standard temperatures previously mentioned. The level of the bath liquid shall not be lower than 0.5 cm. above the overflow rim of the oil tube. In tests at 210 degrees Fahrenheit (98.9 degrees Centigrade) the water bath shall be vigorously stirred, and may be heated by the direct injection of steam near the bottom of the bath. A bath of other suitable liquid may be used provided it is properly heated and stirred. The heating and stirring of the bath may be accomplished by any suitable means, provided the source of heat is not less than the following distances from any part of the oil tube: 2 inches (5 cm.) with an external heater, 1¼ inches (3 cm.) with an immersion heater. Viscosity determinations shall be made in a room free from draughts and from rapid changes in temperature. The room temperature shall be between 68 and 86 degrees Fahrenheit (20 and 30 degrees Centigrade.)

"All oil introduced into the oil tube, either for cleaning or for test, shall first be passed through the strainer.

"To make the test, heat the oil to the necessary temperature and clean out the oil tube. Pour some of the oil to be tested through the cleaned tube. Insert the cork stopper into the lower end of the air chamber at the bottom of the oil tube, sufficiently to prevent the escape of air, but not to touch the small outlet tube.

"Heat the oil to be tested, outside the viscometer, to slightly but not more than 3 degrees Fahrenheit (1.7 degrees Centigrade) above the temperature at which the viscosity is to be determined, and pour it into the oil tube until it ceases to overflow into the overflow cup. By means of the oil tube thermometer, keep the oil in the oil tube well stirred, and also stir well the liquid in the bath. It is extremely important that the temperature of the bath be maintained constant during the entire time consumed in making the test. After the temperature of the bath and of the oil in the oil tube have been constant for one minute at the desired temperatures, withdraw the oil tube thermometer, quickly remove the surplus oil from the overflow cup by means of a pipette so that the level of the oil in the overflow cup is below the level of the oil in the oil tube proper; place the 60-cc. flask, in position so that the stream of oil from the outlet tube will strike the neck of the flask so as to avoid foam. Snap the cork from its position, and at the same instant start the stop-watch. Stir the liquid in the bath during the run and carefully maintain it at the previously determined proper temperature. Stop the watch when the bottom of the meniscus of the oil reaches the mark in the neck of the receiving flask.

"The time in seconds for the delivery of 60-cc. of oil, is the Saybolt Universal (or Saybolt Furol) viscosity of the oil at the temperature at which the test was made.

"With proper attention to details of methods of procedure, duplicate results should not differ from each other by more than 1 per cent."

LARGE INCREASE IN GASOLINE RECOVERY

(Continued from Page 31)

This explains why the natural gasoline market recently has been even more disappointing than the refinery gasoline market. Sellers have been forced to look more and more to outside sources for their outlet and have been unable to obtain it except by lowering prices.

The government reports show a daily natural gasoline production of 3,500,000 gallons based on the production of companies making regular monthly reports. There are a large number of small concerns from which it is difficult to obtain regular reports and it is apparent that many of these are not reporting to the government. A recent survey made by The Oil and Gas Journal showed a natural gasoline capacity in excess of 5,000,000 gallons daily. Based on this report it is estimated that the actual daily production of natural gasoline if all plants were accounted for is at least 4,000,000 gallons daily. This means that for every barrel of oil produced at the well there is an additional two gallons of natural gasoline. In other words the natural gasoline manufacturer handling the casinghead gas from the wells has made 44 gallons out of every barrel of crude instead of 42 gallons. Since the refinery reports only account for half of this natural gasoline output an additional 1 per cent should be added to gasoline recovery calculations.

TWENTY-ONE PROJECTS IN FUNDAMENTAL RESEARCH

(Continued from Page 30)

by any single ingredient of the rock in determining the type or qualities of the distillates, nor the temperatures at which they are generated is definitely or even approximately known; the respective causes and effects are neither identified nor correlated.

To date the microthermal observations cover a number of oil shales of different ages and types, and of somewhat different states of carbonization. These observations cover also several cannels and some carbonaceous shales, together with a few coals and bogheads.

The observations as yet made are but partially interpreted. In fact, although inferences may in some cases be drawn with probable safety, and sometimes with certainty, the interpretation of many of the changes observed in the organic matter will be possible only in the light of further experience, or when the micro-furnace study will have been followed by the distillation tests to be made in the retort and these are in turn subjected to chemical analysis.

Plan of Operation

According to the plan in view, of which this study is the first stage, the microthermal observations should be followed by distillations of the same rocks under the same conditions in a special retort, so that test cuts may be taken off at the temperatures corresponding to the observed changes in the components noted under the microscope.

The detailed chemical study of these cuts, the third stage in the procedure, should not only throw invaluable light on the importance of each of the readily visible components in the rock and of the organic groundmass as sources of distillates generated under different processes or conditions, but it should also indicate, roughly, at least, the quality or qualities of the distillate yielded by each. Jointed with the micro-furnace studies and the retort test, it should go far toward tracing the qualities as well as the quantities of the distillates back to their organic sources.

Through analogy and inference a better understanding may be reached of the origin of the natural petroleums also, and of the relations between the characters of the oil and the characters of the mother rock. Collectively, the studies should aid in opening the door to the attack from the genetic standpoint on the fundamental chemistry of petroleum.

It is evident that the method of study will be of great value in the solution of a wide range of problems, including questions relating to coal as well as other deposits of organic composition. At present neither the applications and importance nor the limitations in the use of the micro-furnace in the investigation of the carbonaceous deposits have been determined. It is, however, to be noted that while in some cases the process promises to exceed expectations, it is at the same time evident that in other instances it will leave much to be desired.

Source Sediments

The origin and environment of source sediments covers the study of oil shale or supposed mother rock sediments in the making. The examination of the conditions of deposition, of the ingredient materials, and of the compositions of the different types of mother rocks laid down in different environments and in marine and fresh water (as carried on under this project) should not require travel during the first year much beyond the limits of the United States. In this domain there are many localities where sediments thought to be of critical types should be in process of deposition. Such areas are Chesapeake Bay, Currituck Sound, indentations along the Gulf of Mexico, both in the coast of the United States and Mexico, the Gulf of California, and perhaps places in Puget Sound. Every advantage will be taken of any available oceanographic exploration.

Study of Source Beds

The critical study of selected source beds contemplates study of four selected geologic formations which are in places sources of petroleum, to determine their mode of formation, their relations to known accumulations of petroleum and natural gas, their characteristics and properties, and in particular the criteria that will distinguish source beds from other sediments, and the criteria that will distinguish a "spent" source bed from one which is a potential generator of petroleum.

Formations of widely different geologic ages and of very different characters will be studied to determine the reasons for the existence of petroleum in rock millions of years apart in age of formation

with all the evolution of new types of contributory organisms and modification or disappearance of old types which such a lapse of time demands. The study will take account of the characters of the oils yielded by the different selected source beds and will seek explanation in the comparative ages of the formations; in the stresses that have affected these beds; in their comparative depths of burial; and in their original and acquired compositions and characteristics for the differences in at least some of the chemical and physical properties of the oils.

Properties of Oils

Many of the chemical and physical properties of oils may undoubtedly be traced to the character of the original organic matter; to the conditions of its preservation; to the environment and the duration of the partial decomposition of this organic matter; and to the subsequent shift of the petroleum hydrocarbons. Whatever the facts gained by chemical and physical analysis of crude oils they must be interpreted in the light of their geological origin and early history.

Our present knowledge of source beds is fragmentary and most inadequate. Some of the evidence now available is convincing, although circumstantial. Other evidence upon which dependence has been placed is undeniably questionable. Many deductions and even observations are erroneous and misleading. The existing data are widely scattered. The determination and compilation of authentic information on selected source beds will assist materially all later geological studies involving sediments containing organic matter and will open the way to the genetic study of petroleum chemistry.

The economic application of these studies should be immediate, important and noncompetitive. The knowledge will apply to all regions where oil is known to occur, and to all regions that are being considered as possible sources of petroleum.

Locale for Project

Four selected source beds will be covered—the Miocene source beds of the San Joaquin Valley of California, the Upper Cretaceous source beds of Texas and lower Pennsylvania source beds of eastern Oklahoma and Kansas and western Missouri, and Ordovician beds of the Mid-Continent.

Plan of Operation

Work to continue for three years. The Fellows to spend three months each year for the first and second years in the field collecting material and arranging with oil companies to procure needful and dependable samples. During the third year one or two special trips may be necessary.

The first year is to be devoted to field observations, and to detailed study of microscopical, biochemical and micropaleontological literature. At the end of the first year, it will be possible for the director of research to submit a comprehensive statement regarding present ideas concerning source beds, based upon studies of literature and the first year's work on the selected beds.

The second and third years are to be devoted to specialized studies. Each Fellow will take one field and make comparative studies in the different formations. These studies embrace micropaleontology, petrography, micro-chemistry, micro-thermal examinations, geology and physical condiitions of organic sedimentation. The nature of the "spent" source material and the possible reasons for different sources yielding different oils.

Possible Results

(1) Determination of rocks actually proved to be source beds of petroleum.

(2) Identification of those beds constituting the sources of the oil in different rocks.

(3) Distinction between spent source beds and those still capable of yielding oil by normal geologic processes.

(4) Progress in the determination of relations between type of source rock and type of oil.

(5) Preparation of a general descriptive work on source rocks.

(6) Training of students in research on fundamental problems of petroleum.

(7) Determination of criteria for the recognition of petroliferous provinces.

Petroleum Physics

In the matter of the separation, identification and determination of the components of commercial petroleum fractions: Fundamental chemical research in connection with petroleum is necessarily bound up with chemical composition of the material. Most of the attempts to fractionate petroleum into its components have been based very largely upon fractionation by distillation. By this method alone the components of petroleum cannot (except in cases involving the lower boiling components) be obtained in pure state and most of the evidence as to the chemical nature of many of these so-called "components" as reported in the literature is inconclusive and unconvincing.

Proposed Plan of Research

1. Selection of some particular straight-run petroleum fraction.

2. Subjection of this fraction to further distillation, without cracking, until the separation is as complete as can be obtained in this way.

3. Subjection of the several fractions obtained under 2 to the following processes, systematically and in accordance with the efficiencies shown.

(a) Fractionation by isothermal evaporation at different temperature levels using a stream of inert gas and perhaps accompanied by fractional condensation of the vapors.

(b) Fractional crystallization of the fractions by cooling.

(c) Fractional crystallization from solution in suitable solvents; (1) by cooling, (2) by isothermal evaporation of the solvent at different temperature levels accompanied by condensation of the vapor for recovery of material carried over.

(d) Fractional precipitation from one solvent by addition of another.

Results

The progress of the separation and the chemical identity of the final products should be established by (1) the freezing behavior (i.e., time temperature cooling curve for the material in mass); (2) boiling point by the equilibrium method; (3) crystallographic examination, and where necessary (4) conversion of the pure material into one of its chemical derivatives and identification thereof.

In cases where the above methods fail to effect complete separation they may perhaps be assisted by suitable chemical treatment to change the chemical nature of some of the components, followed by further fractionation.

The foregoing procedures should be carried out in a quantitive manner so that the final products obtained will account for all of the material started with.

The pure substances eventually obtained and identified will become available for such further research as seems desirable.

Catalytic Investigation

Catalytic methods applied to petroleum hydrocarbons covers the examination of the hydrocarbon molecule from the standpoint of catalytic investigation. Catalytic studies have recently shown that a catalyst is a convenient agent for exploring the stability of a molecule and the energy quantities involved in the linkage of the respective atoms which go to make up the molecule. A knowledge of such energy relationships is fundamental to a nonempirical attack on the problem of converting hydrocarbon molecules to other chemical products. It is necessary to know which link in a chain of atoms within the molecule is the weakest, how such links are modified by length of chain or branching, and whether such links of a chain can be modified by association with suitable agents.

One concrete example may illustrate this problem. The position of substitution of a chlorine atom for hydrogen in a long chain hydrocarbon is determined (a) by the energy relationships involved in such substitution and (b) by the resistance of the system to such change. This latter may be modified profoundly by a catalytic agent and it therefore ought to be possible to control such substitution by suitable choice of catalyst.

Similarly, the resolution of complex hydrocarbons into simpler hydrocarbons, the dehydrogenation of such bodies, oxidation and substitution are all problems fundamental to petroleum utilization which require a systematic, comprehensive study from the standpoints of energetics and the catalytic chemist. The project should cover ultimately not only the saturated hydrocarbon but also unsaturated and cylic compounds since these are found in or are by-products of petroleum.

Chemistry of Petroleum

The effect of electric discharge upon gaseous hydrocarbons: Investigations at the Fixed Nitrogen Research Laboratory in Washington on the effect of alpa particles on the various lower hydrocarbons, both saturated and unsaturated, have shown that these hydrocarbons, under this influence, possess a very high tendence to polymerization or to condense with the elimination of hydrogen, methane and other lower hydrocarbons, with the result that higher hydrocarbons are formed. Methane, ethane, propane, butane, ethylene and acetylene have been studied in this connection and we have good evidence to believe that this particular kind of action is dependent upon gaseous ionization and could be just as readily brought about by any other agency capable of producing ionization.

Plan of Operation

It, therefore, appears most important to see what can be done by passing different forms of electric discharge through these lower hydrocarbons. These hydrocarbons might be circulated past a zone of corona discharge or through an ozonizer (silent discharge.) The resulting products could be collected by refrigeration in the case of liquids and by filtration or precipitation in the case of solids, in another part of the apparatus. We should expect liquid products from the unsaturates but also some solid products from the more highly unsaturated compounds such as acetylene.

Another interesting question would be whether or not hydrocarbons could be entirely removed from the gaseous phase by this process, leaving behind hydrogen sufficiently pure for industrial uses, such as in the synthesis of ammonia or methanol. It should be mentioned parenthetically that it is not at all improbable that reactions similar to this outlined above could also be brought about catalytically but researches to this end would not be undertaken under this project.

Analysis of Hydrocarbons

Analysis of hydrocarbons by the time positive-ray method: The apparatus for this work has already been designed in a laboratory in which considerable positive-ray work of other sorts is going on. The chance that the new apparatus will work for this analysis of hydrocarbons is good, and in case it does it will open up for solution a large number of important problems. For example, it will make possible the determination of the precise composition of any mixture of hydrocarbons however heavy, or the precise character of the products of cracking at all temperatures. The apparatus for this work, costing all of $1,000 or more, will be provided by the laboratory.

Fractional Distillation

Analysis by fractional distillation from absorbent materials (charcoal, silica jell, etc., both of light and heavy members of the hydrocarbon series:

It is proposed to employ absorbent agents as a means of separating hydrocarbons possessing properties more or less closely related as to boiling and melting points and as to general solubilities in ordinary reagents. For the lower members of the saturated hydrocarbon series results have already been obtained but not as yet published.

Oxidation

Analysis of the gradual oxidation prior to ignition of fuels in internal combustion engines, and the relation of such oxidation to detonation:

An apparatus has been designed, and successfully used, for taking off a sample of the gas in the cylinder of an internal combustion engine at any instant of the cycle. This work is already under way in the laboratory, with promising results, but may have to be discontinued for lack of funds.

Comparison of Viscosity Methods

Accurate comparison by viscosity methods developed by Millikan of the viscosities and hence of the mean free paths of ring and chain hydrocarbons of the same molecular weight and composition:

It is proposed by this study to bring to light the differences in physical structure between various isomers of hydrocarbons.

This research will require the construction of a new type of viscosity apparatus.

This research, not yet under way, will require the construction of a new viscosity apparatus which will cost about $1,000 to construct, alone. It will then need a $500 fellowship to support it.

Determining Physical Properties

Determination of physical properties of petroleums and petroleum products:

It is proposed to determine as accurately as possible the physical properties of a large number of crude petroleums and petroleum products; such for example as specific heats, latent heats at all temperatures critical data and specific gravities at higher temperatures. All refining engineering work is handicapped by a lack of reliable information of this character.

Chemistry of Petroleum

Preparation of pure typical hydrocarbons and a study of their behavior when heated alone and with catalysts:

It is proposed first to prepare a number of pure hydrocarbons and then subject them to varying conditions of heat with the purpose in view of ascertaining (1) the possible rearrangement and polymerization of olefines present; and (2) the possible rearrangment and decomposition of the paraffines and the cycle paraffines.

California Petroleum

In the detrmination of composition of southern California petroleum, it is planned to study a number of methods leading to the separation of the various components from the crude petroleum. Particularly in view is the study itself of characteristic reactions of these various components when isolated.

Thermo Labile Hydrocarbons

Isolation and investigation of thermo labile hydrocarbons present in petroleum:

One aspect of this work is to study the labile hydrocarbons which are present in petroleum and which are responsible for some of the reactions involved in the so-called "cracking" of this material. It is extremely doubtful if the most labile aliphatic hydrocarbons are still present in petroleum, but there is every reason to believe that there are present in this petroleum a large number of highly branched aliphatic hydrocarbons unstable at temperatures around 200 degrees.

Preliminary work has shown that the reaction between a sodium-potassium alloy and a labile hydrocarbon yields the metallic derivative of the corresponding free radical. For example, in the aromatic series tetraphenyl ethane gives this reaction. It has been found that various samples of petroleum distillates yielded small amounts of hydrocarbons which reacted in a similar manner with sodium and potassium alloys.

Plan of Operation

Through the formation of these organo-metallic compounds it is now proposed to isolate the labile hydrocarbons present in petroleum and to study their derivatives. These organo-metallic compounds react with carbon dioxide to form acids, affording thus a convenient method for the isolation of certain of their derivatives. When subjected to moisture these organo-metallic compounds react to produce hydrocarbons originally present in the petroleum, (i.e., the relation of methane to ethane.)

If the work of Zeigler on aryl compounds can be duplicated it should be possible to treat the organo-metallic derivatives with iodine or organic dibromides and regenerate the labile hydrocarbons themselves. This aspect of the work is, of course, the most interesting both from the scientific and practical standpoints.

It will be advisable at the outset to prepare certain substances, such as ditertiarybutyl and try their action upon the

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alloy itself. Undoubtedly a certain amount of synthetical work must be involved in order to prepare compounds that can be used as a basis for these comparison studies.

Organic Sulphur Compounds

Little is known today of the organic sulphur compounds in petroleum; in fact, the methods for their isolation leave much to be desired.

After compilation of data on sulphur compounds in general, it is proposed to study methods of isolation by all possible physical and chemical means.

Such as: (a) Careful fractionation with the best columns and control, both at atmospheric pressure and under vacuum. (b) Isolation of the sulphur compounds as heavy metal derivatives or as addition products with heavy metal salts. (c) Conversion into water-soluble products by sulphonation, oxidation, or other chemical processes.

There will be required a number of syntheses of typical organic sulphur compounds closely related to those of possible existence in crude petroleum.

There will be undertaken also comprehensive chemical studies of selected types of organic sulphur compounds with special attention to their reactivity upon heavy chemicals such as those used, or that might be used, in the refining of petroleum products.

Organic Thermal Decompositions

Noncatalytic thermal decomposition of pure hydrocarbons and related compounds:

This research will attempt to study the nature of organic thermal decompositions as applied both to saturated and unsaturated hydrocarbons.

It is proposed as a working hypothesis that there may be a "methane system" of compounds, just as there is a "water system" and an "ammonia system." It is well known that groupings such as $=C(OH)_2$ and $=C(NH_2)_2$ are usually very unstable, decomposing spontaneously with the elimination of water or of ammonia. Therefore, it is not unreasonable to assume that the grouping, $=C(CH_2)_2$, is relatively unstable at elevated temperatures, yielding as decomposition products methane and a derivative of ethylene. This idea has been totally unexploited, yet what evidence we have seems to support it. To cite but one instance, methane has been found to be a major product of decomposition of isopentane, whereas it plays a very minor role in the decomposition of n-pentane. Secondary reactions are also encountered, to be sure.

Operating Plan

It is realized at the outset that all analogies of the "methane system" to the "water system" cannot be verified by experiment. However, to illustrate some of the possibilities of the plan, the following outline is given. Methane and water are both extremely resistant to heat, and at sufficiently elevated temperatures both decompose directly to their elements. Ethane would be the "alcohol" of the methane system, since a methyl group has replaced a hydrogen of methane. The decomposition of ethane and the decomposition of methanol are very similar.

$$CH_3{-}CH_3 \rightarrow CH_4 + (CH_2)$$

and also

$$\rightarrow H_2 + CH_2{:}CH_2$$

$$CH_3{-}OH \rightarrow H_2O + (CH_2)$$

and also

$$\rightarrow H_2 + CH_2{:}O$$

By this analogy, ethylene is the "formaldehyde" of the methane system, since it has two hydrogens less than ethane, the "methanol."

Other problems of thermal decomposition which are of interest in petroleum chemistry are the decompositions of the ethers of secondary alcohols with which no work has been done as yet, and also the decompositions of such secondary and tertiary alcohols as are necessary to supplement the existing information about them.

Reaction of the Olefins

The olefins, ethylene, propylene, butylene, etc., are produced in great quantities in the refining of petroleum. The effect of their structure on the relative rates of addition to acids has already been investigated. Experimental data on the relative rates of oxidation, hydrogenation and halogenation of the olefins, under varying conditions of temperature, pressure and catalyst, will here be sought.

It is proposed to use a bubbling absorber and measure reaction coefficients for the absorption of olefins by various reagents. It will be necessary to carry out experiments in a rotary chamber in order to determine what effect is produced on their reactions by the introduction of the corresponding isomeric olefins as well as by the introduction of similar substances which do not enter into reaction with the reagent.

Nitrogen Compounds

Isolation and investigation of nitrogen compounds present in petroleum:

The work of Maberry and Wesson opened up the possibilities in this field and pointed to both aromatic and hydroaromatic compounds, chiefly of the quinoline type, as constituting the main portion of the nitrogen fractions.

It will be necessary to repeat the work already done and amplify the processes that applied to methods of separation. If the lower alkylated quinolines of California petroleum consist of hydrogenated heterocyclic rings then dehydrogenation of these compounds should be studied in order to identify them with well-known members of the quinoline series. An outline of the research as applied to California petroleum is as follows:

1. Separation of the bases into different fractions.
2. Resolution of these fractions into individual components by the methods discussed.
3. Employment of the Skita method of catalytic reduction on different fractions of bases.
4. Employment of dehydrogenization on fractions of nitrogen bases where hydrides of methylated quinolines are suspected.
5. Oxidation of the fractions and a search for pyridine pentacarboxylic acid, methyl pyridine tetracarboxylic acid and beta-methyl quinoline, together with a comparison of these preparations, if obtained, with the corresponding synthetic products.
6. Ring cleavage of both the pyridine and benzene nuclei in any quinoline derivatives isolated in the pure state, in order to determine the distribution of substituting alkyls.
7. Reduction by the Skita method of Combes' 2, 3, 4-trimethyl quinoline in an attempt to prepare both the tetra- and decahydrides.
8. Synthesis of heptamethyl quinoline and its catalytic reduction.
9 A search for nitrogen compounds other than quinoline derivatives.

Types of Sulphur Compounds

Determination of physical and chemical properties of all types of sulphur compounds present in petroleum:

The isolation of many different types of sulphur compounds from petroleum will be undertaken. A study will then be made of their simple reactions to the ordinary chemical reagents. Qualitative and quantitive methods for determining these type sulphur compounds in crude petroleum itself will be studies. Mexican crude oil will be made the subject of this investigation.

NORTH CENTRAL TEXAS

(Continued from Page 40)

others' No. 2-A McCaghren, Section 1,367, T. E. & L. Survey, bailed salt water at 961-62 feet and was abandoned. Maer & Staniforth's No. 1 Prideaux, Section 1. C. T. R. R. Survey, A-68, pumped 10 bbls. of oil and 2 bbls. of salt water from sand at 493-500½ feet. Four other failures in Young County this week were as follows: Plains Production Co.'s No. 1 Snyder, Robert Wilson Survey, abandoned at 620 feet; Reed & Anderson's No. 1 Bird, Section 202, T. E. & L. Survey, at 1,013 feet; Stafford & Hayes' No. 2 Dailey, in the Dailey 92 acres, S. Tynes Survey, which had dry sand at 560-62 feet and was plugged at 580 feet; and Trigg & Lane's No. 1 Bryan, a failure at 1,200 feet.

Throckmorton County

Humble Oil & Refining Co. temporarily abandoned No. 1 Ledbetter, in the NE 160 acres of the SE 320 acres of the J. Kemp Survey A-1, 369.

Shackelford County

Conley and others' No. 1 Parrish, Section 2, B. A. L., was temporarily abanboned at 3,000 feet. Humble Oil & Refining Co.'s No. 1 Flippen, Section 34, Block 11, T. & P. Survey, was dry and abandoned at 1,300 feet. Hunter's No. 1 Pierce, C E half SE, Section 47, B'ock 14, same survey, was a location abandoned. Hyde & James' No. 1 Newell was also plugged as dry at 1,516 feet. Phillips Petroleum Co.'s No. 9 Lynch, Section 25, B. A. L., produced 30 bbls. of oil and 100 bbls. of water wi h 1,500,000 feet of gas from sand at 2,939-74 feet. Roeser & Pendleton's No. 2 Cook A-84, in the Cook Ranch Pool, Block 10, E. T. R. R. Survey, was flowing 400 bbls. at 1,338-60 feet.

Stephens County

Mid-Tex Oil Co.'s No. 5 Cunningham, Section 1,210 T. E. & L. Survey, was a 12-bbl. well at 3,172-90 feet. In the south half of the county, Brown & Co.'s No. 4 Akin made 3,000,000 feet of gas at 3,013-15 feet. Chestnut & Smith Corp. had a 7,000,000-foot gasser at 3,467-84 feet in No. 1 Hodges and Hucony Gas Co.'s No. 5 Gandy, was good for 3,000,000 feet of gas at 3,078-92 feet. Scanlon & Lightfoot's No. 1 Ming, was dry and abandoned at 3,710 feet.

Palo Pinto County

Nelson Oil Syndicate's No. 1 Owens was temporarily abandoned at 1,500 feet.

Eastland County

Eastland Oil Co.'s No. 1 Wright, Lot 54, Leagues 3 and 4, McLennan County School Land, was good for 100 bbls. at 1,566-77 feet. Fort Ring Oil Co.'s No. 1 Tucker, C Lot 2, in the W one-third of the T. A. Howell Survey, made 5,000,000 feet of gas at 2,985-3,005 feet. Kokomo Petroleum Co.'s No. 1 Wood, was dry and abandoned at 3,060 feet. Lewis and others' No. 1 Downtain was a 500,000-foot gasser at 1,476-88 feet, with total depth 1,549 feet. Lightfoot and others' No. 3 Allen Estate, was a failure at 3,020 feet and Roberts Oil Corp. also abandoned No. 1 R. Gullett as dry at 1,666 feet. Texas Pacific Coal & Oil Co.'s No. 6 Hodges Estate, made 25 bbls. at 3,452-84 feet, total depth being 3,495 feet.

Callahan County

French & Lewis' No. 1 Jones in the U. Bass Survey No. 9, was dry and abandoned at 1,663 feet. Holmes and others' No. 1 Bell in Section 77, B. O. A. Land, was also plugged at 853 feet. Pennant Oil & Gas Co. furnished another duster in No. 1 Robbins, which was dry at 1,654 feet. Prairie Oil & Gas Co.'s No. 1 Cunningham, NE cor. Section 73, Comal County School Land, reported last week, was a completion good for 250 bbls. at 1,398-1,412 feet. Transcontinental Oil Co.'s No. 1 Gorsuch, a wildcat in Section 1, Block 10, T. & P. Survey, was dry and abandoned at 2,060 feet.

Coleman County

Burke-Greis Oil Co.'s No. 3 Dibrell, one location west of NE cor. their 40 acres in the Dibrell Pool, J. W. Hicks Curvey No. 265, was completed for 100 bbls. at 1,911-29 feet. Western Oil Sales Corp.'s No. 1 Dibrell, in the same pool, which came near to being junked because of a bad fishing job, was finally completed for 12 bbls. at 1,910-28 feet, total depth 1,930 feet. C. O. Moore's No. 1 Dibrell was dry and abandoned at 3,012 feet. Magnolia Petroleum Co.'s No. 16 Morris, in the J. D. Davidson Survey No. 80, was a 3,000,000-foot gas well at 717-30 feet and completed Canyon Oil & Gas Co.'s No. 1 Davenport, Section 259, Dunlavy Survey, was dry and abandoned at 2,615 feet.

Brown County

Arkansas Fuel Co.'s No. 1 Eddington, in the Robert Mitchell Survey No. 141, was a failure and plugged at 1,584 feet. Barkley & Conway's No. 2 Allen, Block 8, Juan Delgado Survey, made 160 bbls. at 1,139-54 feet. Blair & Kell's No. 6 Byrd, N. B. Mitchell Survey No. 150, was a duster at 1,316 feet, having drilled dry sand at 1,306-12 feet. Carter and others abandoned the location for No. 1 Wheeler in Section 10, B. B. B. & C. Survey. J. S. Cosden's No. 3 Williams, in the R. L. Coffelt Survey, made 100 bbls at 1,141-51 feet, total depth being 1,153 feet. Humble Oil & Refining Co.'s No. 1 Hughes was dry and abandoned at 1,243 feet; No. 3 Leatherwood in the Dunn-Stover Pool, made 3 bb's. at 1,132-40 feet, total depth 1,141 feet. McLester Oil Co.'s No. 3 Wooldridge, H. B. Gaines Survey A-1,400, was good for 600 bbls. at 1,262-75 feet. Meridian Petroleum Corp.'s No. 1 County Poor Farm, in Section 23, E. McGee Survey, was dry and plugged at 1,219 feet. Mimms and others' No. 1 Nations, in Block 158, Victoria County School Land, was dry and abandoned at 1,509 feet. C. O. Moore's No. 1 Ramsey, Block 16, A. White Survey, was also a failure at 1,568 feet. Pandem Oil Corp.'s No. 2 Westerman, in the N. B. Mitchell Survey No. 150, made 170 bbls. at 1,251-71 feet. Root's No. 2 Suttles, Section 140, Robert Mitchell Survey, was a 30-bbl. well at 1,130-51 feet. The Texas Company's No. 15 Dunn, in the south 40 acres of the north 71 acres of Section 12, Juan Delgado Survey No. 785, made 75 bbls. at 1,122-44 feet, total depth 1,145 feet.

In the southern half of the county, Haynes' No. 1 Reed, in the Goodman Survey No. 117, was dry and abandoned at 1,560 feet. Mitcham's No. 1 Tervooren Block 2, H. T. & B. Survey, was also a duster at 1,410 feet.

Pecos County

Levi Smith's No. 1 Devlin in Section 44, Mrs. Ashmore Survey, was abandoned as dry at 1,312 feet.

Crockett County

J. K. Hughes Development Co.'s No. 1 Powell "A," in Section 63, Block B-2, pumped 250 bbls. at total depth of 2,659 feet.

Archer County

Texhoma Oil & Refining Co.'s No. 11 Hamilton, Section 22, League 4, Denton County School Land, pumped 178 bbls. from oil sand at 1,797-1,803 feet; No. 12 Hamilton pumped 160 bbls. of oil and 13½ bbls. of water at 1,795-1,803 feet. The Marland Oil Co. and Trahan's No. 1 L. F. Wilson, C. Spaulding Survey A-388, had dry sand at 1,563-64 feet and was plugged at 1,609 feet. McCarthy Oil Co.'s No. 30 L. F. Wilson "B," E. Hall Survey A-682, pumped 15 bbls. from 868-73 feet and broken sand and shale to 910 feet, total depth. Rayzor & Seaberry's No. 1 George Parrish, Section 98, A. T. N. C. L. Survey, failed to find the Howell & Barkley sand and was abandoned at 1,365 feet. Richardson Oil Corp.'s No. 1 G. T. Netherton, was also a failure at 1,803 feet. Shaw and others' No. 6-B L. F. Wilson had broken oil sand at 1,361-85 feet and made 15 bbls. The Wanderer Oil Co. and Humble Oil & Refining Co.'s No. 1 L. F. Wilson "A" in Lot 821 Geraldine Subdivision, of Section 82, A. T. N. C. L. Survey, had dry sand at 1,564-82 feet and was abandoned at 1,620 feet.

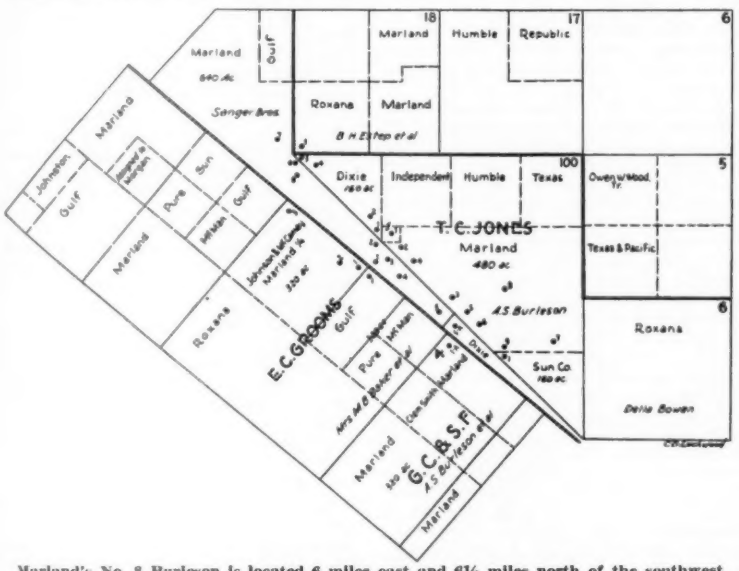
Archer County

The Atlantic Oil Producing Co.'s No. 7 Rachuig "A," Section 4, B. B. B. & C. Survey, A-778, swabbed 125 bbls. at 1,175-81 feet. Camp Oil & Gas Co.'s No. 1 Porter was dry and abandoned at 1,500 feet, fining no sand. The Cosden-Consolidated Oil Co.'s No. 1 Jehlik, drilled dry sand at 1,108-11 feet and was abandoned at 1,500 feet. Golding & Cochran's No. 1 H. O. Prideaux had sandy lime at 596-605 feet with 200 feet of oil in the hole and was preparing to pump; No. 1 R. O. Prideaux had a hole full of water in sand at 772-80 feet and was shut down. Gulf Production Co.'s No. 39 A.: P. Nichols pumped 3½ bbls. at 1,556 feet in broken sand. Same company's No. 4 W. M. Ashworth pumped 10 bbls. from total depth of 1,213 feet in shale.

Harris & Gose's No. 1 I. M. Inmon and others in the Sarah McKimbs Survey, A-493, failed to pick up any sand, so was plugged at 720 feet. Humble Oil & Refining Co.'s No. 11 G. B. Hamilton in Lot 1 of the Crawford subdivision. I. Holman Survey, pumped 30 bbls. from sand at 1,266-74 feet. Kell & Kruger's No. 2 R. O. Prideaux, J. I. Hand Sur-

vey, A-181, had sand at 689-703 feet good for 35 bbls. initially. Lewis Oil Corp.'s No. 2 H. O. Prideaux in the A. Rohus Survey, A-240, had a hole full of oil in sand at 628-36 feet and was preparing to pump. Jesse Lincoln's No. 1 S. Wilson, G. C. Wiseman Survey, A-671, was dry and abandoned at 1,350 feet, having no sand. Litchfield and others' No. 1 J. T. Richardson, Lot 6, J. Scott Survey, A-374, was dry and abandoned at 1,350 feet, no sand. Maer & Staniforth's No. 3 Meade Estate, in the "LM" pasture, bailed salt water in sand at 1,440-48 feet, then drilled sandy shale to 1,461 feet and was plugged. Magnolia Petroleum Co.'s No. 22 Lowe pumped 51 bbls. at 1,265-72 feet; No. 11 Portwood pumped 60 bbls. from sand at 1,418-22½ feet; No. 16 Kate Rogers pumped 10 bbls. at 1,367-70 feet.

Marland Oil Co.'s No. 1 W. H. Thomas, north subdivision of Nathan Thomas Survey, pumped 65 bbls. at 1,157-66 feet; No. 2 Thomas was dry and abandoned at 1,444 feet, with no sand; No. 3 Thomas swabbed 250 bbls. at 1,153-66 feet and was being put on the pump. Pandem Oil Corp. and Simms Oil Co.'s No. 14 Pandem fee, Section 2,433, T. E. & L. Survey, made 65 bbls. initially at 1,442-48 feet. Petroleum Production Co.'s No. 3 L. J. Kunkel, Lot A, Thomas McCoy Survey, A-269, found no sand and was abandoned at 1,195 feet. Prairie Oil & Gas Co.'s No. 7 Richardson made 12 bbls. at 1,383-91 feet. Roxana Petroleum Corp.'s No. 2 Abercrombie pumped 63 bbls. from broken sand at 1,338-41 feet and oil sand at 1,341-51 feet. Shasta Oil Co.'s No. 4 G. P. Meade Estate "A" Section 39, Meade subdivision of "LM" pasture, pumped 26 bbls. at 1,428-51 feet; No. 5 Meade Estate "A" was estimated good for 7 bbls. from sand at 1,424-48 feet and was being put on the pump. The Texas Company's No. 13 B. R. Jeske, Section 6, Thomas McCoy Survey, A-269, pumped 22 bbls. from broken sand at 1,148-62 feet. Texhoma Oil & Refining Co.'s No. 8 Abercrombie & Taylor, Section 2, S. P. R. R. Survey, A-1,281, had sand at 1,340-62 feet good for 50 bbls. on the pump; No. 4 L. J. Kunkel, Block 2, Thomas McCoy Survey, A-269, pumped 38 bbls. at 1,164-79 feet; No. 1 W. J. Logan, Allison Arms Survey, A-5, had 40 feet of oil in the hole at 1,138-42 feet. Tidal Oil Co.'s No. 1 Parkey was dry and abandoned at 1,855 feet. United Producers Oil Co.'s No. 2-A Prideaux was a 10-bbl. well at 681-708 feet; No. 10 Prideaux was good for 15 bbls. at 670-88 feet. Western Oil Corp.'s No. 1 J. D. Stine tested salt water in sand at 1,898-1,902 feet and was abandoned.



HURDLE DISTRICT OR MARLAND-BURLESON AREA, UPTON COUNTY, TEXAS

Marland's No. 8 Burleson is located 6 miles east and 6½ miles north of the southwest corner of Upton County.

Montague County

The F. H. E. Oil Co.'s No. 1 N. J. Howard and others had broken sand at 1,126-51 feet and was swabbing and cleaning out with 900 feet of 31 gravity oil in the hole; No. 3 "B" R. Hinds was completed for 40 bbls. at 922-36 feet. Gulf Production Co.'s No. 8 R. W. Cunningham pumped 62½ bbls. at 997 feet in oil sand. Harris & Simmons' No. 1 J. W. Maddox was spraying oil with about 25,000,000 feet of gas from sand at 871-98 feet. Humble Oil & Refining Co.'s No. 6 R. Hinds made 90 bbls. at 894-941 feet. Jamison and others temporarily abandoned the location for No. 2 Cunningham. The Texas Company's No. 3 Cunningham was plugged back from 1,002 feet to oil sand at 996-99 feet where it made 48 bbls. of oil and 4 bbls. of salt water; No. 8 J. B. Oldham and others swabbed 143 bbls. the first 12 hours from oil sand at 1,072-91 feet. It had broken sand from 1,091 to 1,116 feet and shale to 1,120 feet, total depth. It was not completed. The Texas Company's No. 1 "B" J. W. Maddox pumped 209 bbls. the first 24 hours and 170 bbls. the second day from sandy lime at 2,078-82 feet. The Texhoma Oil & Refining Co. and Republic Production Co.'s No. 1 E. J. Bouldin "A," John Chambliss Survey, A-123, had an oil sand at 1,184-94 feet but swabbed it dry. The same companies' No. 8 R. Hinds, in the J. J. Wall Survey, A-1,199, was being put on the pump, having had oil sand at 924-43 feet and shale at 943-44 feet; No. 4-A Howard and others was also put on the pump at 1,360-72 feet.

Cooke County

C. C. Lanier's No. 1 A. Hyman was dry and abandoned at 2,122 feet.

Jack County

Baytex Oil Co.'s No. 3 Snedeker failed to find any sand so was abandoned at 1,035 feet. Guthrie and others' No. 1 Mrs. M. D. Snedeker, J. Robbins Survey, A-490, was preparing to pump with a hole full of oil in sand at 781-88 feet. Howard Petroleum Co.'s No. 1 G. P. Stewart, C Section 3,301, T. E. & L. Survey, was dry and abandoned at 555 feet with no sand. Ilseng Production Co.'s No. 1 John Allen, Section 2, S. P. R. R. Survey, had a small show of oil at 531-45 feet but was dry and abandoned at 809 feet. Kerbow and others' No. 1 Pickrell had no sand and was plugged at 800 feet. Seaboard Oil Co.'s No. 1 Cullers was shut down for pipe with 1,300 feet of fluid in the hole from sand at 2,036-37 feet. Winnipeg Oil Co.'s No. 1 J. D. Gillespie, in the J. B. McNeil Survey, A-1,796, was dry and abandoned at 706 feet. It found no sand.

Wichita County

Humble Oil & Refining Co.'s No. 3 J. E. Roller, in the J. Rector Survey, A-247, was a 5-bbl. pumper at 280-85 feet; No. 4 Roller was dry and abandoned at 500 feet. E. J. Stump & Co.'s No. 1 W. H. Chilson, Section 6, League 4, Denton County School Land, A-417, had a small showing at 1,801-02 feet but was plugged at 1,802½ feet. F. Beaudoin's No. 1-A Snow was dry and abandoned at 1,833 feet. The Block 41 Oil Oil Co.'s No. 9 Kemp & Kempner, in Block 41 of Kemp's Wichita Valley lands, was shot with 10 quarts in oil sand at 1,757-71 feet and pumped 6 bbls. afterward. Culberson Co.'s No. 40 J. L. and T. J. Waggoner, Section 13, B. S. & F. Survey, A-343, was junked and abandoned at 1,827 feet. Dale Oil Corp.'s No. 24 Grace Jennings, Section 12, H. T. & B. Survey, A-473, pumped 20 bbls. from oil sand at 1,464-86 feet. Electra Production Co., Inc.'s No. 4 T. L. Burnett, Section 7, H. T. & B. Survey, A-134, pumped 2 bbls. of oil and 4 bbls. of water from sand at 812-17 feet, total depth 855 feet. Empire Gas & Fuel Co.'s No. 18 Pierce, pumped 8½ bbls. of oil and 1 bbl. of water at 1,456-63 feet. Gulf Production Co.'s No. 17 G. Jennings "A", pumped 60 bbls. from total depth of 1,625 feet in oil sand. L. P. Hammond's No. 4 Jennings, was dry and abandoned at 1,954 feet. Howell's No. 6 Burnett was likewise a failure at 840 feet. Humble Oil & Refining Co.'s No. 5 Hines pumped 20 bbls. initially from oil sand at 886-92 feet; No. 5 Mitchell-Waggoner was dry and abandoned at 795 feet. Magnolia Petroleum Co.'s No. 17 Pratt "A" pumped 3 bbls. at 812-16 feet; No. 1 B. Ramming made 40 bbls. at 1,297-1,304 feet; No. 20 Ramming "A" was plugged as dry at 1,933 feet; No. 7 Cullum-Watkins was a failure at 515 feet; No. 8 pumped 21 bbls. of oil and 17 bbls. of water at 796-98 feet. John O'Neil's No. 24 Rio Bravo, Section 31, Block 5, H. & T. C. Survey, was dry and abandoned at 1,604 feet. Panhandle Refining Co. and McClure's No. 4 Jennings pumped 1 bbl. of oil and 1 bbl. of water from sand at 70-100 feet, total depth 106 feet. Petroleum Investment Co.'s No. 19 J. A. Fisher, Section 7, H. T. & B. Survey, A-134, pumped 10 bbls. from broken oil sand 1,491-95 feet, oil sand 1,495-98 feet. Petroleum Production Co.'s No. 2 Allen & Kemp "D" pumped 25 bbls. of oil with a little water at 1,648-57 feet and water sand 1,657-58 feet; No. 4 Douglas was dry and abandoned at 2,006 feet. Rubsam, Hunter and others' No. 1 McClure was estimated good for 25 bbls. at 1,325-37 feet. It was cleaning out. Shappell Oil Co.'s No. 8 McCarty "A" was abandoned as dry at 1,790 feet. Sheldon's No. 1 Sheldon was a failure and plugged at 872 feet. E. J. Stump & Co.'s No. 1 Chilson, Block 21, an old producer completed for 15 bbls. at 1,813-14 feet, was abandoned. Its last production was 3 bbls. of oil and 285 bbls. of water. Skelly Oil Co.'s No. 4 B. Ramming, Section 1, H. T. & B. Survey, A-124, pumped 7 bbls. at 1,289-1,301 feet; No. 5 B. Ramming, same section, pumped 18 bbls. at 1,291-1,301 feet.

Wilbarger County

Barkley & Meadows' No. 12 Stephens "A" pumped 55 bbls. from sandy lime at 2,042-58 feet; No. 7 Stephens "B", drilled deeper from completed well of April 12, was running 6-inch to 1,300 feet and making 20 bbls. Empire Gas & Fuel Co.'s No. 10 Stephens, an old well deepened, was dry and abandoned at 2,530 feet; No. 40 Stephens pumped 8½ bbls. at 818-20 feet, and 830-38 feet. Humble Oil & Refining Co.'s No. 48 Stephens was junked and abandoned at 755 feet; No. 6 Waggoner "G" was dry and abandoned at 2,648 feet; No. 4 Waggoner "K" pumped 8 bbls. of oil and 15 bbls. of water at 2,386-96 feet; No. 2 Waggoner "N" pumped 100 bbls. at 2,306-43 feet in lime, total depth 2,345 feet; No. 8 Waggoner "M", Section 42, Block 4, H. & T. C. Survey, swabbed 30 bbls. in 6 hours from oil sand at 1,880-1,903 feet; No. 9 Waggoner "M" had oil sand at 1,869-73 feet and was running liner; No. 10 had a small showing at 1,845-50 feet and was cementing casing; No. 6 Waggoner "C" pumped an estimated 220 bbls. from oil sand at 1,925-44 feet, total depth 1,945 feet; No. 7 Waggoner "O" pumped 200 bbls. at 1,894-1,906 and 1,911-27 feet, total depth 1,928 feet. Lawson's No. 15 Waggoner pumped 10 bbls. at 2,036-41 feet, total depth 2,044½ feet. Milham Corp.'s No. 7 Waggoner "L" was flowing 246 bbls. in 24 hours from sand at 1,892-1,923 feet, total depth 1,925 feet. Milller Oil Co.'s No. 3 Waggoner swabbed 50 bbls. from oil sand at 1,945-61 feet with lime 1,961-62 feet. It was cleaning out. Phillips Petroleum Co.'s No. 8 Waggoner "A" swabbed 170 bbls. at 1,844-59 feet and when put on the pump made 120 bbls.; No. 10 Waggoner "A" pumped 180 bbls. at 1,844-61 feet; No. 9 Waggoner "F" swabbed 33 bbls. from oil sand at 1,896-1,922 feet and was cleaning out; No. 8 Waggoner "G" pumped 25 bbls. at 1,861-76 feet; No. 5 Waggoner "H" pumped 15 bbls. at 1,888-94 and 1,903-04 feet, total depth 1,916 feet; No. 3 Waggoner "Q" swabbed 508 bbls. June 15 from oil sand at 1,867-83 feet. It was still cleaning out and had made as high as 680 bbls.; No. 1 Waggoner "JJ" pumped 25 bbls. at 2,396-2,400 feet, total depth 2,409 feet; No. 2 Waggoner "JJ" swabbed 18 bbls. from oil sand at 2,320-46 feet and was drilling at 2,361 feet in shale; No. 5 Waggoner "QQ" pumped 254 bbls. from oil sand at 1,887-1,919 feet. It had swabbed 360 bbls. before completion; No. 6 Waggoner "QQ" was cleaning out and swabbing 50 bbls. at 1,882-1,901 feet. Prairie Oil & Gas Co.'s No. 3 Waggoner "A" was cleaning out at 2,355 feet and estimated good for 25 bbls. It had saturated lime 2,295-2,329 feet and oil sand 2,329-35 feet. The Texas Company's No. 1 Guggisberg was dry and abandoned at 2,845 feet.

Baylor County

Magnolia Petroleum Co.'s No. 7 Portwood pumped 10 bbls. from sand at 1,429-30 feet.

PRODUCTION BY FIELDS FOR WEEK ENDING JUNE 21, 1926

Electra

Atlantic Oil Prod. Co.	50
Empire Gas & Fuel Co.	635
Gulf Production Co.	1,046
Humble Oil & Ref. Co.	160
Magnolia Petroleum Co.	3,410
Panhandle Refining Co.	42
Phillips Petroleum Co.	17
Prairie Oil & Gas Co.	111
Rio Bravo Oil Co.	575
The Texas Company	3,666
Texhoma Oil Refining Co.	1,300
Miscellaneous	5,611
Total	16,513

Burkburnett

Gulf Prod. Co.	438
Humble Oil & Ref. Co.	435
Magnolia Petroleum Co.	2,582
Panhandle Refining Co.	245
Prairie Oil & Gas Co.	35
Sinclair Oil & Gas Co.	55
Skelly Oil Co.	178
The Sun Oil Co.	52
The Texas Company	393
Texhoma Oil & Ref. Co.	554
Miscellaneous	7,300
Total	12,268

Iowa Park

Atlantic Oil Prod. Co.	70
Gulf Production Co.	128
Humble Oil & Ref. Co.	150
Magnolia Petroleum Co.	301
Panhandle Refining Co.	28
Roxana Petroleum Corp.	10
Simms Oil Co.	10
The Texas Company	223
Texhoma Oil & Ref. Co.	684
Miscellaneous	2,912
Total	4,516

Wilbarger

Atlantic Oil Prod. Co.	105
Empire Gas & Fuel Co.	940
Gulf Production Co.	40
Humble Oil & Ref. Co.	3,365
Phillips Petroleum Co.	5,208
Prairie Oil & Gas Co.	125
Roxana Petroleum Corp.	470
The Texas Company	29
Texhoma Oil & Ref. Co.	71
Tidal Oil Co.	26
Miscellaneous	4,250
Total	14,628

Archer

Atlantic Oil Prod. Co.	262
Barnsdall Oil Co.	1,030
Cosden Co.	690
Empire Gas & Fuel Co.	505
Gulf Production Co.	3,039
Humble Oil & Ref. Co.	1,377
Independent Oil & Gas Co.	12
Magolia Petroleum Co.	1,500
Marland Oil Co.	407
Panhandle Refining Co.	109
Phillips Petroleum Co.	573
Prairie Oil & Gas Co.	2,159
Roxana Petroleum Corp.	340
Simms Oil Co.	515
Sun Oil Co.	330
The Texas Company	3,045
Texhoma Oil & Ref. Co.	3,150
Tidal Oil Co.	50
Miscellaneous	13,060
Total	32,203

Young

Atlantic Oil Producing Co.	534
J. S. Cosden	170
Gulf Production Co.	240
Humble Oil & Ref. Co.	370
Magnolia Petroleum Co.	150
Marland Oil Co.	1
Mid-Kansas Oil & Gas Co.	10
Panhandle Refining Co.	140
Phillips Petroleum Co.	18
Prairie Oil & Gas Co.	10
Roxana Petroleum Corp.	125
Simms Oil Co.	750
Sinclair Oil & Gas Co.	351
Sun Oil Co.	190
The Texas Company	460
Texhoma Oil & Ref. Co.	276

XUM

Tidal Oil Co.	140
Miscellaneous	3,650
Total	7,585
Stephens	
Arkansas Fuel Oil Co.	25
Empire Gas & Fuel Co.	25
Gulf Production Co.	1,206
Humble Oil & Ref. Co.	650
Magnolia Petroleum Co.	350
Mid-Kansas Oil & Gas Co.	1,625
Phillips Petroleum Co.	425
Prairie Oil & Gas Co.	725
Republic Production Co.	125
Roxana Petroleum Corp.	50
Simms Oil Co.	25
Sinclair Oil & Gas Co.	75
Sun Oil Co.	175
The Texas Company	1,035
Texas Pacific Coal & Oil Co.	1,425
Transcontinental	2
Miscellaneous	4,665
Total	12,608
Shackelford	
Empire Gas & Fuel Co.	25
Humble Oil & Ref. Co.	900
Magnolia Petroleum Co.	50
Phillips Petroleum Co.	660
Prairie Oil & Gas Co.	10
The Texas Company	205
Texhoma Oil & Ref. Co.	75
Miscellaneous	8,550
Total	10,475
Ranger	
Arkansas Fuel Oil Co.	5
Gulf Production Co.	517
Humble Oil & Ref. Co.	50
Magnolia Petroleum Co.	675
Mid-Kansas Oil & Gas Co.	125
Panhandle Refining Co.	130
Phillips Petroleum Co.	15
Prairie Oil & Gas Co.	550
Republic Production Co.	50
Simms Oil Co.	30
Sinclair Oil & Gas Co.	310
The Texas Company	140
Texas Pacific Coal & Oil Co.	775
Transcontinental	25
Miscellaneous	2,465
Total	5,862
Eastland-Comanche	
Empire Gas & Fuel Co.	10
Humble Oil & Ref. Co.	80
Magnolia Petroleum Co.	625
Mid-Kansas Oil & Gas Co.	125
Phillips Petroleum Co.	35
Prairie Oil & Gas Co.	75
Sinclair Oil & Gas Co.	15
Skelly Oil Co.	115
The Texas Company	110
Transcontinental	25
Miscellaneous	675
Total	1,890
Brown	
Cosden Co.	685
Humble Oil & Ref. Co.	950
Phillips Petroleum Co.	135
Prairie Oil & Gas Co.	790
Simms Oil Co.	35
The Texas Company	550
Witherspoon Oil Co.	25
Miscellaneous	4,435
Total	7,605
Callahan	
Humble Oil & Ref. Co.	2
Prairie Oil & Gas Co.	350
The Texas Company	180
Texas Pacific Coal & Oil Co.	20
Miscellaneous	3,200
Total	3,752
Miscellaneous Pools	
Reagan County	30,531
Clay County	504
Montague County	4,189
Jack County	112
Throckmorton County	569
Baylor County	156
Palo Pinto County	449
Coleman County	1,890
Scurry County	51
Mitchell County	3,401
Crockett County	892
Upton County	529
Howard County	45
Crane County	52
Total	43,370
Panhandle	
Carson County	2,831
Hutchinson County	43,755
Wheeler County	95
Gray County	3,261
Potter County	15
Total	49,957
Grand total	223,232

TEXAS PANHANDLE

(Continued from Page 40)

producers. The Lucky 10 Oil Co. offset this gain with a big drop in output, its No. 1 Smith being down to 500 bbls. with 20 per cent water on the swab, as reported last week. The Westex Oil Co.'s output also declined 600 bbls. and the lease shows 2 per cent water. The White Eagle Oil & Refining Co.'s Johnson lease is another property that is having its troubles with the saline fluid. The Travelers Oil Co. maintained its No. 2 Kingsland at approximately 800 bbls. daily for the week by constant agitation.

Treating Test

An interesting experiment was performed by the Prairie Oil & Gas Co. last week on its No. 1 Weatherly. It was treated with a chemical compound by the name of "Sure Cut" and afterward averaged 125 bbls. daily, never pumping off during the week. The Apex Oil Co.'s No. 1 Smith, Section 11, Block Y, M. & C. Survey, which flowed 478 bbls. last week following a shot of 300 quarts in lime at 2,827-2,923 feet, was averaging 200 bbls. at latest report.

Cockrell & McIlroy's No. 2 Smith, Section 14, Block Y, was cleaning out to shoot at 2,915 feet. The Dixon Creek Oil Co. isn't having as much success as it might have on the Smith leases where it has enough wells drilling to make an oil field of its own. No. 4, in Section 11, Block Y, bridged after a shot of 230 quarts at 2,913-72 feet and was cleaning out; No. 5, same section, shot with 410 quarts at 2,792-2,890 feet, shot the casing in two and had no production; No. 6, same section, topped the pay at 2,792 feet and was drilling at 2,860 feet with 1,000 feet of oil in the hole; No. 7, same section, had the rig rebuilt and was rigging up at 2,730 feet; No. 9 was spraying 10 bbls. daily at 2,832 feet; No. 17, in Section 14, was fishing tools at 2,360 feet; No. 21, in Section 12, was a 200-bbl. well after a 220-quart shot at 2,783-3,839 feet; No. 29 flowed 600 bbls. after a shot of 180 quarts at 2,855-2,900 feet.

The Gulf Production Co.'s No. 9 Dial, north of the Canadian River, was completed for about 50 bbls. It made 27 bbls. the first 10 hours after a shot of 120 quarts at 3,080-93 feet. This well is in Section 34, Block M-23. The same company's No. 1-B Whittenburg, in Section 89, Block 2, was still swabbing 55 bbls. at 3,023 feet. The Gulf's No. 1 J. T. Hodges, in Section 5, Block M-26, had a show of heavy oil at 2,853-57 feet and was drilling at 2,865 feet.

The Gibson Oil Corp.'s No. 1 Kingsland, Section 4, Block Y, had a hole full of oil at 2,858 feet. Golding and J. R. Phillips' No. 1 Hodges, Section 5, Block M-26, reported last week shut down for shot, will not be shot at present. Its gas has been contracted to the Marland Oil Co. for 30 days. The J. K. Hughes Development Co.'s No. 2-A Kingsland, Section 6, Block Y, was good for 700 bbls. after a 90-quart shot, 2,924-74 feet; No. 3-A was shot with a similar amount from 2,916-66 feet but bridged and was cleaning out.

The Marland Oil Co.'s No. 1 Belle Wisdom, Section 35, Block M-23, had some gas at 2,950 feet and a show of heavy oil at 2,994 feet. It was straightening pipe 2,900 to 2,950 feet. J. H. Middleton's No. 1 Smith, Section 15, Block Y, was drilling at 2,886 feet with a show of oil and No. 2 was shut down for orders at 2,845 feet after getting a show at 2,812 feet.

The Midwest Exploration Co. and Holmes' No. 2 Smith-Capers, Section 5, Block Y, was good for 600 bbls. after a shot of 180 quarts at 2,943-3,000 feet; No. 3 was shut down at 2,850 feet. The New Domain Oil Co.'s No. 2 Kingsland, Section 4, Block Y, was fishing tools at 2,835 feet with 1,500 feet of oil in the hole. Phillips & Heywood's No. 1 Smith Section 12, Block Y, was trying to shut off gas at 2,820 feet.

Biggest Shot of Week

The biggest shot of the week was placed in the Phillips Petroleum & Pulaski's No. 1 E. Cockrell, Section 2, Block Y. It was 520 quarts placed at 2,955-3,100 feet and after it went off the well made 60 bbls. in the first two hours and then was cleaning out.

The Relief Oil Co.'s No. 2 Smith, Section 11, Block Y, was shut down for shot at 2,785 feet; No. 3 was drilling at 2,600 feet. The Skelly Oil Co.'s No. 3 Johnson Brothers "A", in Section 4, Block B-4, was completed for 500 bbls. with 10 per cent water in lime at 2,915-57 feet. J. L. Smith's No. 1 H. E. Smith, Section 7, Block Y, was shot the second time, using 320 quarts at 2,907-67 feet and was completed for 25 bbls. afterward. The first shot was 100 quarts. Oil was found in the lime from 2,832-2,955 feet. The Western Oil & Development Co.'s No. 1 Jarvis, in Section 8, Block Y, was shut down at 1,800 feet with a crooked hole. The White Eagle Oil & Refining Co.'s No. 2 Smith-Capers, in Section 11, Block Y, was cleaning out to shoot; No. 4 was drilling at 2,705 feet; No. 1 Whittenburg, in Section 12, was cementing the 8-inch at 2,870 feet; No. 2 Whittenburg was drilling at 2,552 feet.

In Gray County, Clark & Jones' No. 1 Worley & Reynolds, SE cor. NW, Section 83, Block 3, important test between the Wilcox-Pampa big well and the Clark & Baldridge producer, set the 8-inch and was drilling ahead at 2,414 feet.

In Moore County, the Phillips Petroleum Co.'s No. 1 Sneed, was running the 8-inch at 2,460 feet.

In Hartley County, the Deep Rock Oil Co.'s No. 1 Lyman & Balfour, Section 9, Block 2, was shut down at 700 feet with pipe trouble.

In Carson County, The Texas Co.'s No. 4, in Section 113, Block 5, was good for 85 bbls. initially from pay at 2,845-2,924 feet.

EARTH TEMPERATURE AS DRILLING GUIDE

(Continued from Page 37)

perature, however, once known in an oil field both on the top of the dome and on its slope or entirely separate from the dome, would provide a series of reasons upon which additional drilling should be based.

The knowledge of depth temperatures is gradually being added to and in the course of time it is believed this method may be very important assistance in guiding the driller to oil structures.

Colorado Hits 212 Fahrenheit

The No. 1 Johnson, drilled by the A. A. Rolleston Co. at Longmont, Colo., which was drilled for oil and came in dry, showed an extensively high temperature. At 100 feet from the surface the temperature was 58.1 degrees Fahrenheit, with gradual increase to 210.3 degrees at a depth of 6,500 feet. The temperature of the rocks in this well at a depth of 6,600 feet reached the boiling point or 212 degrees Fahrenheit at sea level. This well was opened last summer. The average rate of increase in the Longmont well is 1 degree Fahrenheit to every 44 feet.

In the A. L. Richards deep well at Franklin Furnace, Sussex County, New Jersey, the temperature increased from 49.7 degrees at 100 feet below the surface to 66.0 degrees at 2,500 feet, or roughly an average rate of increase of about 1 degree in 171 feet.

Extending the depth temperature curves in the four deep wells referred to in the foregoing, Franklin Furnace, New Jersey; Fairmont, West Virginia; Longmont, California, and Lost Soldier, Wyoming, it is found that the depth at which the boiling point of water, 212 degrees Fahrenheit, at sea level would be reached are as follows:

Franklin Furnace, 21,000 feet, or approximately 4 miles; Fairmont, West Virginia, 9,500 feet, 1¾ miles; Longmont, 6,600 feet, 1¼ miles; Lost Soldier, Wyoming, 3,500 feet, or two-thirds mile. These figures show the wide variation of temperature with a highest temperature at Lost Soldier, Wyoming, and the lowest at Franklin Furnace, New Jersey. This conforms to the theory that the Rocky Mountain region is of a much more recent geologic period than is the Atlantic Coast line.

GAS LESSEE'S RIGHT TO DISCOVERY ALLOWANCE

(Continued from Page 37)

tubing and other equipment, the oil lessee shall immediately confine the gas to the original stratum, and the disposition of such well shall be subject to the approval of the superintendent.

"8. If the gas lessee shall drill an oil well upon the land described herein, he shall immediately, without removing from the well any of the casing or other equipment, notify the oil lessee and the superintendent. In the event the oil lessee does not within 30 days after receipt of notice elect to take over such well he shall immediately so notify the gas lessee, and the disposition of such well shall be to the approval of the superintendent. Should the oil lessee elect to take over the well, he shall pay the gas lessee the cost of drilling the same, including all damages paid in addition to the cost in place of casing and other equipment.

"9. If the oil lessee shall drill a well which produces both oil and gas in commercial quantities from the same and he shall immediately notify the gas lessee and together they shall arrange for the separation and utilization of the oil and gas, and the cost pertaining to said well."

Case Considered

The M company and its subsidiaries, including the N company, held gas leases covering a portion of the land within the Y nation. The oil rights covering a large percentage of this territory are leased to different lesses, many of whom, in the drilling of oil, have encountered gas, and, according to the regulations, have offered such wells to the gas lessee at cost. In many cases the gas lessee has purchased the well from the oil lessee, reimbursing him his cost as provided in the regulations; in others he has refused to elect to take over the well at its cost, but with the approval of the superintendent has entered into a contract with the oil lessee whereby he accepts the gas from such well and pays the oil lessee a certain price per thousand cubic feet until the oil lessee has been reimbursed his cost in the well. (It appeared on the hearing afforded the taxpayer by this office that the option has been exercised in every case where gas in commercial quantities has been struck by the oil driller. In other words, all the wells where discovery revaluation could be claimed have been acquired by the gas lessee under one arrangement for payment or the other, only commercially unproductive wells with no basis for discovery rating have been refused.)

The M company, in the calculation of its depletion, has claimed discovery on all wells drilled by the oil lessee, both those which it has elected to take over and reimburse the oil lessee his cost and also those which it has taken over from the oil lessee under contract.

From the engineer's recommendation, approved by the chief of the Oil and Gas Valuation Section, it appears that a vital distinction is deemed to exist between those two methods of payment. It says in part:

"All the wells upon which the taxpayer has been disallowed discovery are wells which he did not elect to take over and reimburse the oil lessee for the drilling of same, but which he made a contract with the oil lessee to pay him —— cents per thousand cubic feet of gas produced from the well until the oil lessee had been reimbursed for his expense in drilling same. It is therefore evident that the gas lessee did not own the wells in question within 30 days from the date of discovery."

Payment Method Immaterial

In the first place, this office is of the opinion that the method of payment of development costs to the oil lessee, whether in the form of a lump reimbursement or by way of a gas contract until payments thereunder have repaid the cost of discovery to the oil lessee, is immaterial. The right to all gas is in the gas lessee only, and the operation of all wells and the production of all gas is carried on entirely by the gas lessee. His inherent leasehold rights remain the same in each case. If the gas lessee may deplete on the basis of a discovery revaluation in one case, he should be permitted to do so in the other. His acquisition of the well and his control of its operation would seem complete under either arrangement. Even if the physical properties constituting the well were not acquired until payments under the contract method were complete, it is to be noted and will hereinafter be more fully discussed that such ownership is not the property or right which forms the basis for depletion under the statute.

Section 234 (a) 9 of the Acts of 1918 and 1921, under which these taxpayers' claim is made, reads as follows: "* * * Provided further, that in the case of mines, oil and gas wells, discovered by the taxpayer, on or after March 1, 1913, and not acquired as the result of purchase of a proven tract or lease, where

the fair market value of the property is materially disproportionate to the cost, the depletion allowance shall be based upon the fair market value of the property at the data of the discovery, or within 30 days thereafter; * * * such reasonable allowance in all the above cases to be made under rules and regulations to be prescribed by the Commissioner with the approval of the Secretary. In the case of leases the deductions allowed by this paragraph shall be equitably apportioned between the lessor and lessee."

Application of Section

In the application of this section the Department has adopted a broad policy in keeping with the language and with the equities of claimants' rights. A taxpayer has qualified for its benefits if he had a "property interest subject to depletion allowance" as opposed to the fee. (L. O. 1110, C. B. 11-1, 104.) A lessor whose fee was inalienable for a period was held to have such an interest as to base depletion on a discovery revaluation in Law Opinion 1098 (C. B. I-1, 64). A holder of a fractional interest in the lessor's royalties has such property, according to I. T. 1920 (C. B. III-1, 188), which shows a logical extension of the doctrine that the interest held is the controlling factor. This ruling in referring to section 214 (a) 10 applies equally to the similar section 234 (a) 9, and states:

"It is believed that section 214 (a) 10 of the Revenue Acts of 1918 and 1921 intends to grant depletion in accordance with the taxpayer's interest in the property depleted, whether the basis of that depletion allowance be cost, March 1, 1913, valuation, or discovery value. The purchaser of a royalty interest from a lessor acquires by the conveyance an assignment of that portion of the lessor's interest in the property and it is believed that he would have an enforceable right against the lessee for failure to comp'y with the terms of the lease. It would follow that depletion should be allowed a purchaser of a royalty interest based on discovery in a case such as is covered by example 1."

The problem has been further considered in the opinion of the Attorney General (32 Op. Atty. Gen., 328), published as Treasury Decision 3089 (C. B 3, 175):

"I take it that the phrase 'discovered by the taxpayer' must be read with the phrase 'and not acquired as the result of purchase of a proven tract or lease'; and taken together they mean that if a discovery is made after March 1, 1913 upon an unproven tract, acquired either before or after that date, the allowance is to be determined by the discovery value only where the discovery was made by the party or parties in possession; that is, only when no transfers of the tract or lease have intervened between the date of the discovery and the incidence of the tax. In other words, if A, either owning or leasing a property, makes discovery thereon after March 1, 1913, and continues in possession, then the allowance for depletion is to be based upon the discovery value; but if after discovery is made the property is transferred to B, then the cost is determinative of the allowance to B, since there is 'acquisition after March 1, 1913, as the result of purchase of a proven tract or lease'".

In the instant case there appears no such purchase as is above referred to. The gas lessee was already the leasehold possessor of this tract proven by the discovery and the owner of the lease. His was an acquisition under his lease of the equipment of a given well in order to perfect his right to produce and regulate production therefrom. The option provision cannot be severed from the lease. To do so would constitute its exercise and the payments thereunder a purchase of the gas rights. The anomalous result would be the acquisition by the gas lessee of something that was already and solely his under his lease. The most that can be said for the reimbursement of the oil lessee's development costs by the gas lessee is that it amounts to the acquisition of the physical property of the discovered well as an equitable adjustment necessary under the unusual circumstances created by the two overriding leases. Since the gas lessee's existing rights to all gas production nullify all rights of the oil lessee in a gas well discovered by him, and since the converse is also true, the option of reimbursement of development costs to the impotent discoverer in each case was inserted in both leases as a fair adjustment to meet the actual conditions arising in the development of the field.

To quote further from the language of the Attorney General:

"In the case of leases the deductions allowed by this paragraph shall be equitably apportioned between the lessor and lessee."

Such interpretation gives effect to all the language of the section, and brings all parts of it into accord; and under the general rules of construction such interpretation should be adopted in preference to an interpretation which results in repugnance. To hold that by the language "discovered by the taxpayer" Congress intended to give the discovery allowance to the actual discoverer, and to deny the lessor any part of such allowance on the theory that the lessee is usually the discoverer would be repugnant to language of the latter portion of the section, which in the case of leases equitably apportions the allowance between lessor and lessee.

Conclusion

My conclusion, therefore, is that "the value which may be set up in the case of the discovery of mines, oil and gas wells, pursuant to the second proviso of section 234 (a) 9, to be depleted in accordance with such reasonable rules and regulations as the commission and the secretary may make according to the peculiar conditions in each case," requires that the lessor be permitted a portion of such discovery value.

The basis for discovery value to a lessor (or his successor in interest) thus set forth is the fact that at the moment of discovery by the lessee the lessor has a part interest in the discovery and all rights to the results thereof on a par with those of the lessee and over which the lessee as actual discoverer has no control. In such a case the statute provides that each such part owner of the rights shall share in proportion to his interests the benefit of a revaluation for depletion purposes. Under the facts of the present case the oil lessee as actual discoverer has no rights in a gas discovery and no basis for depletion whatsoever. The entire enjoyment, benefit and equity of gas in the tract has been and is, after discovery, in the gas lessee, subject only to a small royalty right in his Government lessor.

The language of the Revenue Act is manifestly adequate to cover this situation. The implication as to the type of rights and taxpayers intended to be benefited by the section is plain. The inclusion in the section of the following words "according to the peculiar conditions in each case * * *" and, "such reasonable allowance in all the above cases to be made under rules and regulations to be prescribed by the Commissioner with the approval of the Secretary," indicates that Congress was conscious of the probable necessity of its application to a variety of circumstances.

This office is therefore of the opinion that the taxpayer is entitled to discovery revaluation for depletion purposes as to all wells discovered on its leasehold tract and taken over from the oil lessee under the lease option, whether payment therefor was made by the immediate reimbursement of the oil lessee for his development cost, or whether this reimbursement was consummated by payments under a gas contract.

SECURITIES MARKET TALKS OF MERGERS

(Continued from Page 133)

common dividend rate is $1 a share annually.

The Texon Oil & Land Co. has declared a quarterly dividend of 20 cents a share, payable July 24 to stockholders of record July 10. In the previous quarter an extra dividend of 15 cents and regular quarterly dividend of 5 cents were paid.

Group No. 1 Oil Corp. declared a dividend of $750 a share, payable October 15 to stockholders of record October 1. Of this dividend, Texon Oil & Land will receive a total of $964,875, since it holds 1,286½ shares of Group No. 1 stock.

North American Car Dividend

At a board of directors meeting held June 15, the usual dividend of 62½ cents per share on the stock of North American Car Corp. was declared, covering the quarter ending June 30, 1926.

DOMESTIC EXPORTS OF PETROLEUM AND REFINED PRODUCTS

	Month of May		11 Months Ended May	
	1925	1926	1925	1926
Petroleum—				
Crude, gallons	55,872,678	77,377,172	569,216,592	539,524,422
Crude, value	$2,514,905	$3,217,741	$21,600,769	$23,840,249
Total refined, gallons	325,547,024	387,767,286	3,587,608,420	3,870,989,759
etroleum, value	$35,454,987	$45,482,661	$361,460,183	$419,698,393
Gasoline,naphtha and other light products, gallons	96,984,827	189,015,832	1,106,203,816	1,433,727,068
Value	$16,094,679	$27,890,448	$157,182,665	$215,265,556
Oils—				
Illuminating, gallons	55,622,548	64,387,815	822,920,839	819,635,741
Value	$6,249,582	$7,008,200	$78,675,196	$80,468,353
Gas and fuel, gallons	134,412,059	103,494,654	1,308,762,186	1,257,364,425
Value	$4,795,013	$3,123,281	$47,401,918	$41,224,479
Lubricating, gallons	38,139,869	29,461,612	346,308,138	352,918,440
Value	$8,267,938	$7,223,667	$77,731,113	$81,638,415
Other refined petroleum products, gallons	387,721	1,407,373	3,413,441	7,344,085
Value	$47,775	$237.065	$469,291	$1,101,589
Paraffin wax, pounds	22,254,240	23,968,096	310,747,717	316,381,458
Value	$1,229,125	$1,349,969	$16,718,881	$17,744,688

D. D. FINLEY KILLED

D. D. Finley, vice president and general manager of the National Petroleum Engineering Corp. of Tulsa was instantly killed Wednesday evening in an automobile accident near Duncan, Okla. Funeral services were held Saturday at Wellington, Kans., the home of his parents.

Mr. Finley, who was 32 years old, had a wide acquaintanceship among the Mid-Continent oil fraternity. For several years he had been associated with different oil companies as an engineer and geologist. Last year with his associates he organized the National Petroleum Engineering Corp., and since that time has had charge of the Mid-Continent office of the corporation.

ESTIMATED PRODUCTION OF PANHANDLE FIELDS

Following is the estimated daily average production of the Panhandle, Tex., Field, by companies, for the week ending June 19 and made up on June 25 from a canvass of the field.

In Carson County the 38 producing wells averaged 67 bbls. per day; Gray County's 8 wells 398 bbls. per day; Hutchinson County's 121 wells, 357 bbls. per day; Potter County's 1 well, 15 bbls.; Wheeler County's 6 wells, 10 bbls. The total average for the week from 174 wells was 48,985 bbls. or an average per well of 281 bbls. per day. This was a gain of 11 wells and a gain in total daily production of 3,631 bbls.

The Texas Panhandle Production (Estimated) Report for Week Ending June 19

Companies—	No. of Wells	Daily Av. Prod.
Carson County		
Amarillo Oil Co.	1	Shut in
American Oil Co.	4	445
Gates Oil Co.	1	10
Gulf Prod. Co.	10	170
Marland Oil Co.	7	1,470
W. W. Silk	2	80
Skelly Oil Co.	2	155
Sunny Jim Oil Co.	2	40
The Texas Company	9	185
Totals	38	2,555
Gray County		
Clark and others	1	5
Empire G. & F. Co.	1	20
Shamrock Pet. Co.	1	150
Wilcox O. & G. Co.	4	3,005
The Texas Company	1	Off
Totals	8	3,180
Hutchinson County		
American Ref. Co.	1	15
Amerada Pet. Corp.	2	160
Badger Oil Co.	1	Off
Barnum and others	1	20
Canadian River Oil Co.	4	390
Canyon Oil Co.	2	2,350
Centerfield	1	Off
Coble Whittenburg	1	Off
Cockrell-McIlroy	2	1,370
Currie Phillips	1	1,850
Derby Oil Co.	1	500
Devonian Oil Co.	1	50
Dixon Creek Oil Co. (No. 8 50 per cent water)	9	5,100
Dunnigan and others	1	300
Empire-Wilson	1	5
Fly Blackburn	1	290
Gates Oil Co.	4	420
Gibson McMillan	1	40
Golding Phillips	1	20
Gulf Panhandle	9	2,150
Gulf Prod. Co.	3	610
Herrin McIlroy	2	265
Holmes and others	1	430
J. K. Hughes	1	45
Lenix Patterson	2	1,610
Lucky Ten Oil Co.	1	5,650
Marland Oil Co.	1	Off
McIlroy Oil Co.	3	550
McMan O. & G. Co.	4	650
Middleton	1	20
Newby	1	Off
New Domain Oil Co.	2	50
Phillips Pet. and others	19	6,255
Phillips Blasdell	1	35
Prairie O. & G. Co.	3	35
Roxana Pet. Corp.	3	2,170
Skelly Oil Co.	5	300
Relief Oil Co.	1	1,280
Ryan Con. Pet. Co.	1	250
Sklatex Oil Co.	2	450
J. L. Smith	1	50
Scott Heywood	1	Off
Smith Bynum	1	200
Summit Oil Co.	1	460
Spring Creek Oil Co.	1	60
Sunny Jim Oil Co.	3	465
Travelers Oil Co.	2	800
Ward and others	1	90
Westex Oil Co.	3	3,600
White Eagle O. & R. Co.	4	1,745
Whittington	1	55
Totals	121	43,175
Potter County		
Amarillo Oil Co.	1	15
Wheeler County		
Gibson Oil Co.	1	30
Midwest Explo. Co.	3	15
Texhoma O. & R. Co.	1	15
Upham Gas Co.	1	Off
Totals	6	60
Grand totals Panhandle	174	48,985
Grand total last week	163	45,354
Gain in prod. during wk.		3,631

NORTH TEXAS MARKET REPORTED SOFTENING

WICHITA FALLS, Tex., June 28.—North Texas refined markets were at a standstill the past week with practically all products experiencing further softening. Exporters also apparently were out of the picture again as few inquiries for higher gravity gasolines were reported.

Refiners had expected some relief during the week from northern jobbers buying for requirements during the Fourth of July holidays but until Monday even this business had not materialized although there still is time for these orders to begin coming in.

The market is in such a shape that only two refineries in this district are operating full time. Some market students think this may have a tendency to strengthen refined products with many sources of supply closed to buyers.

North Texas is peculiar to other refining centers in that when exporters are inactive, gasolines weaken more rapidly than in other areas. This was true the past week when concessions were freely offered by refiners. The 64-66 375 grade even was quoted as low as 12 cents.

The U. S. Motor grade, however, began to be offered freely as low as 10¾ cents. Some quotations for shipment during the early part of July also were at this price but these were few. There was little material moved over 11 cents. The 56-58 450 product also was slow, ranging in price from 10½ to 10¾ cents.

Natural gasolines continued inactive, although reductions suffered in previous weeks were not felt. Grade A and Double A grades were not easily available under 8½ cents; the B grades at 8¼ cents, and Grade C at 8 cents.

Kerosenes were plentiful, being sold as low as 5¾ cents. Gas oil and fuel oil were much softer, the former being quoted from 3⅞ cents to 4 cents and the latter at $1.22½ to $1.25. Distillates were unchanged.

OKLAHOMA REFINED MARKET IS WEAKER

(Continued from Page 28)

to day, or the sale of which has not been covered.

For July Shipment

This feeling was reflected in orders received by sellers. Although some low offers were made by refiners for July shipment practically all gasoline bought the past week was in small quantities and for immediate shipment. Several large jobbers, it is reported from various sources, already have purchased sufficient gasoline for July requirements but with protection guaranteed.

Gasoline in Transit

A different light on the picture is given by a few marketers who have instructed shipment of a fair amount of gasoline to themselves. Although not placed, this gasoline is in transit and is expected to be sold by the marketers over the week end. Jobbers having annual contracts also have ordered out more material than usual the past week.

The removal of this gasoline may serve to relieve refiners whose stocks have been burdensome and may prove the foundation for a firming in the market if any greater demand materializes later in July, market students point out. This situation also is being helped by reports that a few refiners are practically out of the market, their plants being kept busy to fill recent orders of higher gravity gasolines.

Refiners also are counting on a record consumption of gasoline over the Fourth, which will make extensive inroads on stocks in hands of jobbers. With their storage materially lowered, jobbers may be forced to become more active in the open market during July than they were in June.

However, market students do not believe there will be any important buying wave until jobbers are convinced that prices are stabilized. This, it is pointed out, can be accomplished only through a much larger reduction in the refinery stocks and in production the next few weeks.

California Competition

The California situation is blamed to some extent for marked weakening in Oklahoma gasolines. Large quantities of the Pacific Coast material are being laid down at the Atlantic Seaboard at such low prices as to compete effectively with the Oklahoma product in the middle western as well as eastern markets.

All grades of gasolines suffered declines of from an eighth to a quarter cent during the week. Tuesday the U. S. Motor (58 60 437) product was offered for resale at 10¾ cents, although the prevailing quotation was 11 cents. Offers of substantial quantities of this gasoline for July shipment also were made at 10¾ cents.

Purchases of 60-62 400 gasoline previously mentioned prevented declines in this product, it still holding firm from 11¾ to 12 cents. The 64-66 375 material, however, was available as low as 12 cents, with little demand for this.

There continued to be little demand for 450 endpoint gasolines. This year has seen a marked drop in the call for these grades, the general trend seemingly being to lighter motor fuels. In many cases naphtha (50-52 450) was quoted at higher prices than these grades and by some refiners. This was due largely to the low prices of natural gasolines which made the lower grades of gasoline really worth less than the naphtha in manufacturing costs. Naphtha has continued fairly scarce, with a good demand.

Kerosene and Distillates

Kerosene suffered another sharp decline during the week and was fairly free Tuesday as low as 5¾ cents. The demand for this product was only of a routine nature. Whatever buying of this product might arise is slow, due to the uncertain tankwagon postings due to the wide margin between tankcar and tankwagon postings. Tankwagon prices still are as high as they were when kerosene was selling for 10 and 10¼ cents.

Distillates were unchanged. Contract making so far has not materialized and other buying was featureless.

Natural Gasolines

Natural gasolines again were weaker. There continued to be little demand for any grade. Reports from California that 200 cars of natural gasoline were to be shipped there from the Mid-Continent were not verified here, although prices are such that the Mid Continent product could compete favorably in the western state. Tuesday Grade A was quoted from 8⅜ to 8½ cents; the B grades from 8⅛ to 8¼ cents and C at 8 cents. These prices represented declines of from an eighth to a quarter cent from a week ago.

Fuel Oil and Gas Oil

Fuel oils continued to decline in price and movement was sluggish. Low grade fuels were available from $1.15 to $1.17½, the 24-26 product at $1.20, the 26-30 at $1.25 and the 28-30 at $1.30. Weakening of the higher gravity fuels was particularly noticeable, as these grades had been expected to hold up. Gas oil was quoted freely at 4 cents and there was little demand.

Lubricants

Lubricants were unchanged, with prices steady. Large manufacturers continued to report a large movement.

TOO LATE TO CLASSIFY

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STOCKS DRAWN UPON IN COASTAL AND LOUISIANA-ARKANSAS AREAS

HOUSTON, Tex., June 26.—Stocks of Gulf Coast crude in steel and earthen tanks on June 1, aggregated 12,299,920 bbls., compared with 14,545,400 bbls. on May 1. The only earthen tanks now in use are at Sour Lake, Humble, West Columbia, Orange, Goose Creek and Pierce Junction. The Boling crude is pumped to West Columbia. The amount of crude in earthen reservoirs at Goose Creek, and Pierce Junction is very small.

On January 1, the total Coastal crude in storage was 14,217,640 bbls., showing a decrease of 1,917,720 bbls. in six months. The decrease has been rapid in the past 60 days, or since refiners generally commenced to crack the lighter grades.

Stocks in the north central and east central Texas fields declined 620,700 bbls. in the 30-day period between May 1 and June 1. The largest decreases were in the Eastland-Stephens Counties Field and the Powell Field. The total in these fields on January 1, was 30,070,200 bbls., which represents 3,493,080 bbls. in the 6-month period.

The surplus in the North Louisiana-Arkansas fields on June 1 was 44,048,230 bbls., or 2,251,035 bbls. less than on May 1.

The total on January 1 in those districts was 47,878,505 bbls., making the decrease for the 6 months 3,830,275 bbls. The Smackover district declined from 30,178,160 bbls. January 1, to 27,456,100 bbls. June 1. El Dorado increased from 2,550,300 bbls. to 3,391,795 bbls. during the same period. The Homer stocks decreased 1,012,365 bbls. and Crichton, DeSoto and Bull Bayou 1,102,980 bbls.

COASTAL CRUDE IN STORAGE JUNE 1, 1926

Districts—	June 1 Steel	June 1 Earthen	May 1 Steel	May 1 Earthen
Sour Lake	1,642,270	1,975,500	1,511,900	1,955,500
Humble	616,170	2,116,290	424,200	2,133,100
West Columbia	1,284,630	1,118,540	1,223,400	1,130,685
Orange	202,370	647,720	194,700	952,000
Spindletop	1,721,675	.....	1,028,570	2,125,000
Hull	309,720	55,495	242,290	60,720
Goose Creek	141,635	7,800	148,364	12,675
Pierce Junction	2,485	.....	1,310	120,635
Saratoga	190,750	.....	165,125	.....
Big Creek	4,660	.....	18,050	.....
Jennings (La.)	92,425	.....	106,170	.....
South Liberty	24,600	.....	20,150	.....
Vinton (La.)	201,015	.....	324,800	.....
Markham	10,300	.....	12,500	.....
Batson	4,400	.....	4,300	.....
Damon Mound	5,875	.....	4,725	.....
Barber Hill	4,100	.....	4,100	.....
Dayton	200	.....	300	.....
Anse La Bute	960	.....	1,000	.....
Lockport (La.)	18,335	.....	19,130	.....
Totals	6,478,575	5,921,345	6,055,085	8,490,315
Combined Totals, June 1				12,299,920
Combined Totals, May 1				14,545,400
Decrease				2,245,480

Southwest Fields

	June 1	May 1
Luling	214,250	678,970
Lockhart	11,735	11,525
Mirando	315,000	300,000
Totals	540,985	990,495
Decrease	441,510	

North and East Central Texas

Field—	June 1	May 1
Eastland & Stephens	9,056,150	8,870,370
Burkburnett	363,425	245,830
Electra	285,850	274,540
Archer County	45,220	44,220
Vernon	16,365	24,700
Nocona	45,980	53,000
Mexia	11,419,170	11,505,700
Powell	5,318,520	6,191,000
Currie	5,770	5,600
Petrolia	20,670	12,860
Totals	26,577,120	27,227,320
Decrease	620,700	

Approximately 600,000 bbls. of oil stored in Panhandle, not included.

North Louisiana and Arkansas

Field—	June 1	May 1
Smackover	27,456,100	29,013,920
El Dorado	3,391,795	3,768,375
Homer	4,108,100	4,485,300
Haynesville	4,028,900	4,353,700
Crichton, DeSoto, Bull Bayou	4,507,320	4,050,920
Bellevue	162,590	180,450
Cotton Valley	340,590	330,300
Urania	52,835	116,300
Total	44,048,230	46,299,265
Decrease	2,251,035	

In addition to the stocks of Gulf Coast crude there are some 5,955,100 bbls. of light gravity northern crudes stored at tank farms and refineries in the Coastal region. Compared with May 1, this is a decrease of 846,842 bbls. The Humble Oil & Refining Co. has 1,526,700 bbls. at Baytown and 1,545,000 bbls. at Webster tank farm. The Sinclair Oil & Gas Co. has 667,300 bbls. at its Sinco refinery.

ATLANTIC REFINERIES LEADING IN ASPHALT

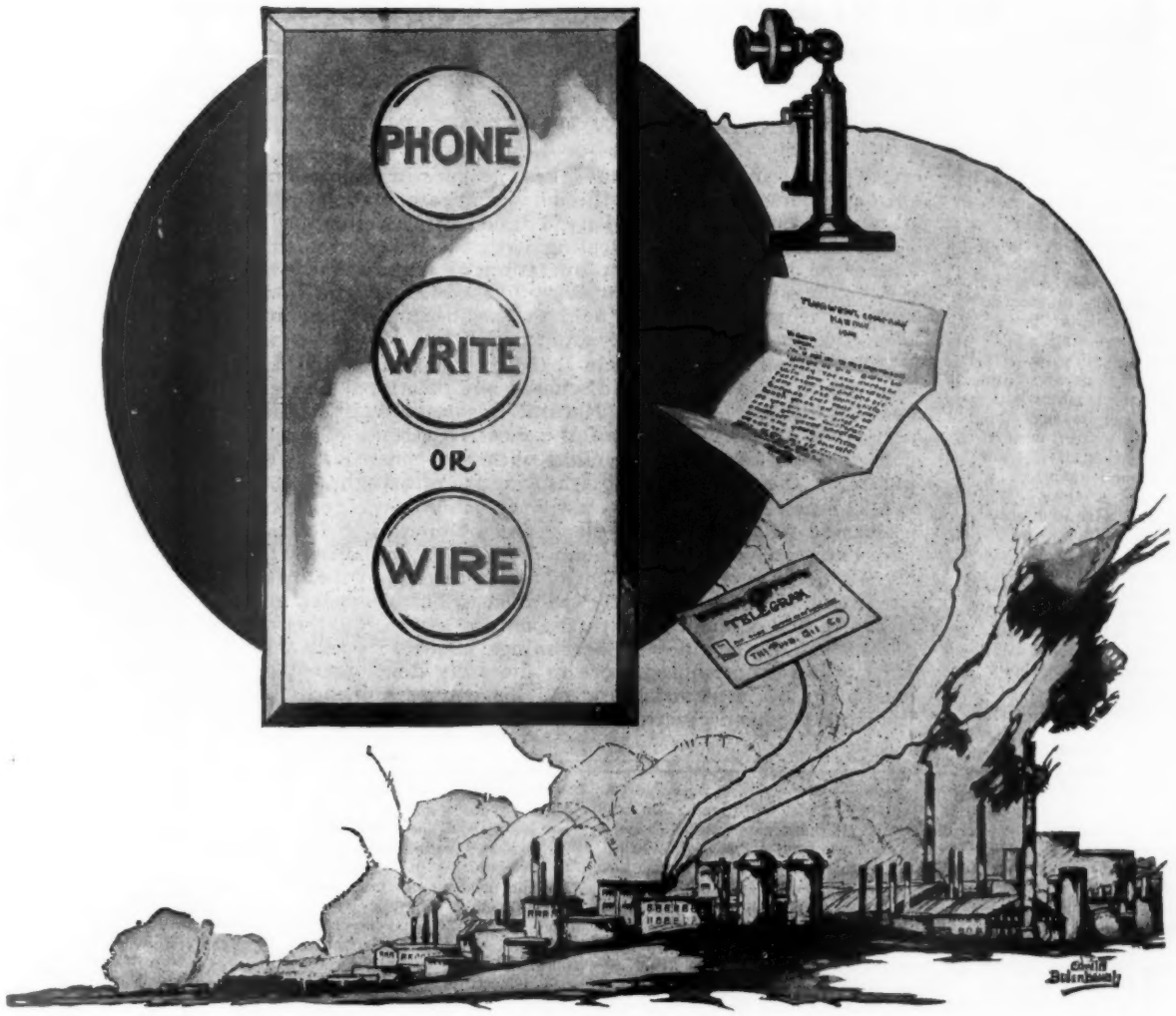
Sales of asphalt and asphaltic materials manufactured from petroleum at refineries in the United States during 1925 amounted to a total of 3,178,370 short tons, which is an increase over the 1924 sales of nearly 100,000 tons, or 3 per cent, according to the Bureau of Mines. These sales were valued at $42,825,770, an increase over 1924 of 19 per cent. Of the total sales during 1925, 1,206,700 tons, with a value of $15,305,760, was manufactured from domestic crude petroleum, and 1,971,670 tons, with a value of $27,520,010, was produced from foreign crude petroleum. The Atlantic Seaboard refineries held first rank as manufacturers of asphalt in 1925, their sales of 1,313,270 tons (practically all of which was from foreign petroleum) comprising 41 per cent of the total for the United States. Asphalt for paving purposes was again the most important variety, its production registering a gain in 1925. Asphalt to be used in the roofing and waterproofing trades was second in importance, but its production remained stationary as compared to 1924.

Sales at the mine of native asphalt and related bitumens in the United States in 1925, including bituminous rock, gilsonite and wurtzilite (elaterite) amounted to 584,850 short tons, valued at $4,148,400. This is an increase over 1924 of 4 per cent in quantity and of 5 per cent in value. Kentucky led in the production of these materials. Of the various products bituminous rock was first in quantity and value.

Imports (general) of asphalt of all kinds for 1925 amounted to 122,162 short tons, a decrease from 1924 of 24 per cent. Exports in 1925 amounted to 121,849 short tons, of which 89,014 tons was petroleum asphalt.

PURE OIL MOVES TO CHICAGO

CHICAGO, June 26.—Regarding the announcement that the Pure Oil Co. had leased six floors in the new Jewelers Building at the corner of Wabash Avenue and Wacker Drive, it was stated that the operating vice presidents with their staffs, the purchasing, scientific and research departments would be moved to this city about September 1. The central distributing division and the producing division for Ohio, Kentucky, West Virginia and Pennsylvania will remain at Columbus, Ohio. The company formerly had offices in the McCormick Building, but about a year ago moved to Clark and Monroe Streets, a location nearer to the offices of the Dawes interests. The larger business of the company and its great interests in the Mid-Continent Field and the desire to be in as close touch as possible with activities in the industry has decided the present move.



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Stabilizer in Gasoline Manufacture

Large Plant Incomplete Without that Equipment. List of Necessary Laboratory Apparatus Given. Type of Pumps

By F. P. Peterson

ANNOUNCING A NEW SERIES OF ARTICLES

The Oil and Gas Journal takes pleasure in announcing to its readers interested in the manufacture of natural gasoline that, starting in its July 8 issue, Mr. Peterson will begin a series of articles dealing with the many problems connected with the efficient operation of natural gasoline plants. This series will cover every phase of operation from the gathering lines in the field to the loading of the finished product at the loading rack.

The accompanying article is the last of a series by Mr. Peterson in which he has discussed the "Rational Design and Arrangement of Large Natural Gasoline Plants." This series has constituted one of the most important editorial contributions ever made dealing with the construction of plants for the manufacture of gasoline from casinghead gas.

The new series will be equally valuable to the operator interested in a last-minute discussion of operating details. Mr. Peterson, who is now connected as an engineer with one of the largest producers of natural gasoline in the Mid-Continent Field, is eminently qualified to discuss operating methods. His connection with the natural gasoline industry dates from its commercial beginnings about 15 years ago. No engineer contributed more to the early development of natural gasoline manufacture and his connection with the industry has been practically continuous since that time.

In consequence of the rather extended length of this series of suggestions of rational arrangement and design of large plants and the desire to reach its conclusion, at least temporarily, the writer proposes to condense as much as possible the remaining essential elements.

It is not out of place to remark again that progress in the industry has been so rapid and aggressive that a set of standards in equipment scarcely received recognition and an approach to general acceptance until improvements, betterments appear and are immediately adopted. So that, having carefully studied the subject as it has stood at any time in the past, presenting the most rational lines of equipment, its limitations and usages, by the time the matter can be concluded in its presentation, it is time to go back over the ground again, do it all over and disclose not a new, but a materially improved and advanced state of the industry. This is illustrated in the fact that the trade now recognizes and deals in natural gasoline grades conforming to definite specification at this date, whereas, five years ago the product was anything from light naphtha to ether in its characteristics, and this transition is very largely, if not wholly, due to available equipment for control of operation and the character of product.

Gasoline Delivery Pumps

To complete the large plant, in addition to what has been presented, there must be provided line pumps for delivery of gasoline from plant. If electric transmission is provided for auxiliary drives a good heavy type of geared plunger pump is suitable. Triplex form is best because of the better distribution of torque stresses and consequent smooth operation. For the case of belted auxiliary transmission, duplex steam pumps are very suitable. In either case the pump details should be in duplicate. The pumps should be located as near as possible to plant stock tanks. They should be set below the level of the bottom of these tanks. The pumps must, of course, be so arranged that either may be cut out of service. Connections to the suction side should be of very liberal proportions, equal in size to the opening into the pump cylinders or of even larger bore. The cut-off valves on both sides of these pumps should be duplicated, that is, two valves in series.

Recently the industry has recognized the value and made use to the very best advantage of highly developed forms of stopcocks in gasoline lines. The best practice in the setting of these pumps would probably employ one such stopcock and one high grade valve, the stop to be used only in case of failure of the valve to perform its work successfully. Thus the valves will be located inside the connecting lines and next to the pumps. The pumps should be housed and in this latitude provision made for protection against frost. In the case of the geared type pump, it is necessary to provide a pressure relief valve with bypassed return to suction. In the case of the steam driven type of pump, this provision may not be necessary. Each pump of the setting should have a displacement capacity of as much as 60 per cent in excess of the volume estimated to be moved in a given time at the normal speed of the pump and pumps of slow rotative speeds should be used.

Another essential detail of pump equipment will be the all-around utility pump and this may be located to advantage in the main auxiliary engine room and at the lower floor level with the water pumps. To this pump connection will be made for picking up and disposal of all the accumulation of slops, water and oil from a gathering drainage sump, this latter to be located also at and below the lowest floor line and in the auxiliary building. If this sump be of liberal proportions, it can be made to serve not only the normal functions of accumulating the drainage from engine room floor but by arrangement of screens and decanting partitions can be made to serve usefully in collecting all the salvageable waste oils around plant. The displacement capacity of this pump should be liberal, 100 gallons per minute is not too much.

Transfer Pumps

Run-down transfer pumps are usually employed for the purpose of transferring gasoline from the receiver tanks at the end of the condensers. Where stabilizers are to be installed, and these may now be accepted as necessary elements in all large plants, these pumps must be in duplicate, located as closely as possible to the run-down outlets. The same provision should be made in hook-up arrangement of the run-down pumps, as for the line pumps with the exception that the relief valve will not be necessary. Special valve equipment in all the gasoline pumps is desirable, the requirement being for the lightest, most mobile type of valve obtainable. The run-down transfer pumps should be housed and provision made here also for prevention of frosting. The duty which these pumps are to perform suggests the use of the steam driven type regardless of the method of transmission employed. An excellent arrangement for control of these pumps is through automatic float valve controlled throttles whereby constant fluid levels will be maintained in the run-down or receiver tanks.

In addition to the foregoing which are essentials in pump equipment at least one other pump should be provided as a part of standard plant equipment. It should have a displacement capacity in excess of 100 gallons per minute and an excellent arrangement would be to mount this pump on a low hung truck or on skids so that it is readily movable from place to place and to provide its outlet and inlet with a short section of non-collapsible hose whereby it may be made to serve quickly in any case of emergency for the clearing of tanks, sumps or pits of their fluid contents.

A liberal equipment of fire extinguishers, properly distributed through plant, must not be overlooked. Hand extinguishers of 5-gallon capacity and 40-gallon "engines" will be sufficient; about two dozen of the former and four of the latter.

Importance of Stabilizer

Beyond the details of mechanical equipment and their assembly into plant for recovery of raw or unfinished product, we cannot conclude the discussion without notice of a further element which while yet in dispute as to its right to occupy a separate and aloof position, is no less an essential part of the art than is a cracking still in the art of refining crude oil. Its function is that of finishing to grade specification any product of absorption, or the older compression method, to that condition of stability which may be demanded. This element is, therefore, very appropriately called a stabilizer. It is nothing more nor less than a column fractionator or dephlegmator as applied in allied and similar industry. Due to the position occupied at present by its purveyors, outside of the ranks of the producing industry, and their courageous effort to present and have it adopted under patent royalty consideration, and in respect of existing unsettled controversy arising therefrom, no effort will be made to describe or disclose its structure or any structure which might supplant it in its purpose and application.

It is appropriate, however, to say that the large plant will be incomplete without stabilizer equipment. This is no less true of the small plant. Under present conditions, though, it seems the small plant may in many cases be barred from its adoption and use through fear of incurring burdensome or prohibitive retroactive expense, depending, of course, on the final turn the litigation may take. A properly designed fractionator functions all the way to the accomplishment of perfect and simplified plant control of product grade to any specification required. It goes further than this. Its function, as the name implies, is to reject unstable fractions occurring by solution in the raw or unweathered product. The column, properly designed, accomplishes the latter result with a minimum wastage of stable fractions, whereas no other form of apparatus devised to date does this, and the consequence in most cases is a definite, measurable gain to plant yield, as against any other method of product control, and the gain is amply large to justify investment in the equipment on a basis either of purchase or royalty consideration.

Recompressor Ratios

By reason of requirement in the apparatus and the range of working temperatures employed, considerable refrigeration, or its physical equivalent, must be applied. This calls for adjustment in recompressor ratios of compression to meet the requirement. In practice the range of final discharge pressures will be from 125 to 200 pounds gauge pressure. This final pressure factor is not ordinarily to be definitely predetermined in advance of selection of compressor equipment for the purpose. Since the above limits may be reasonably accepted as maximum and minimum, it will be safe to take a mean of 175 pounds per square inch. In any event, and for either type of apparatus now employed, the overall ratio will be high enough to call for double staging of the compressor elements to be allocated to stabilizer operation.

The ideal arrangement of cylinder bore or compressor piston area ratios is a slight variation from the old 50-250-pound compression method first and second stage cylinder capacities. These latter were so widely standardized in unit displacement capacities with a common stroke dimension, however, that it is possible to obtain from manufacturers stock patterns a very close approximation of any specific requirement. At this stage of development and usage of stabilizers it seems impractical to attempt to outline definitely the requirement in recompressor equipment for use in connection therewith.

The practice, so far, has been to follow completion of a new gasoline plant, and after an interval of time sufficient to allow a conservative estimate to be reached, with a survey which attempts to determine the recompressor requirement. Condenser and accumulator details are required, of course, in the service which the recompressors will perform in stabilizer operation. It would appear that a recompressor requirement in excess of 50 per cent to 100 per cent of that required in ordinary operation without stabilizer will develop when the stabilizer is installed. Location of the apparatus should be so chosen that the shortest possible connections may be made for transfer and handling of the stocks to be treated.

Water Separation

Water entering the low pressure-type of stabilizer immediately disturbs or completely upsets its operation; consequently, in all the details provided for the handling of stocks to be put through a stabilizer, especial care should be exercised to obtain a mixmum of water separation. Where this is not done and where entrained water carries along with the gasoline, it is necessary to provide dryers in connection with the stabilizer element. It would seem, and the writer concludes it is, practical and rather easy of attainment to get a sufficient

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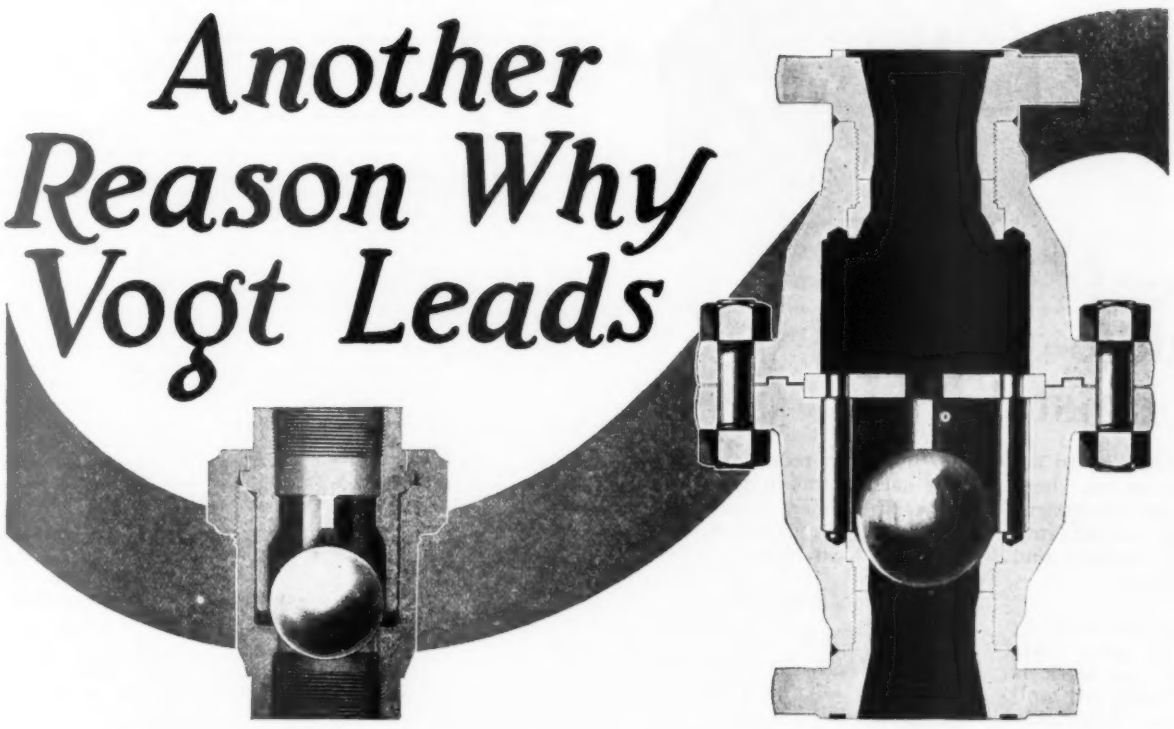

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separation of the entrained water from recompressor condensates to avoid the necessity of use of dryers. The dryers in themselves cannot be other than a source of occasional hindrance to ideal continuity of operation; as much so, probably, as is to be expected from an occasional interference from a small amount of entrained water. While the expense involved may seem deterrent, this writer would suggest that provision of rather liberal condensate storage be made.

It should be possible to provide a receiver of sufficient volumetric capacity for even the high stage recompressor condensates, and to get away, largely, from the turbulence which is responsible for the carrying through, in most instances, of suspended or entrained water. There will be, unavoidably, some water in solution where water is a predominating disturber in plant operation. It is rather difficult to go into the suggestions for arrangement of this element of equipment without encroaching somewhat on the subject of operation, which should properly be treated separately. The definite gain to be realized by the installation of stabilizer equipment will, in the writer's judgment, be sufficient in a general sense that provision should be made in design and arrangement of the large plant, without exception, for the installation of stabilizer equipment and all the necessary auxiliary detail in support of its most successful operation.

The large plant may, and in many cases does, attempt to take care of such problems as the softening of water and the treating to all the requirements of rigid specification of gasoline stocks for color, odor, sweetness, et cetera. These, however, are hardly within the purpose of what we set out to discuss. The matter of water softeners is a branch of engineering very well and thoroughly developed, and ample data are available to any layout man who may choose to go into the subject with the purpose of embodying in his plant assembly a water treating detail.

With regard to apparatus or equipment for the treating of natural gasoline, the art is not by any means so well developed. A rather comprehensive paper on the subject was presented by W. G. Hiatt at a meeting of the Association of Natural Gasoline Manufacturers at Tulsa in 1925. In that article Mr. Hiatt gives some references to other technical articles on the chemistry and physics of the subject, and the writer prefers at this time not to attempt to go into discussion of this phase of design or arrangement as it might be to best advantage undertaken for the large plant.

Complete Laboratory Need

No large plant will be complete without a well studied and planned laboratory provided with equipment suitable for this special line of work. Dependent upon laboratory check throughout the life of operation of the large plant is the matter of efficiency. Laboratory should be ready for action with the completion of plant construction, and in advance of the start of operation. The most important work to be done by the laboratory will be in the first few weeks of operation, and consequently everything should be in readiness to that end.

Location of the laboratory building should have due consideration. It should be as nearly central as possible with regard to the things to be attended. It is desirable to combine laboratory in most instances with the space required for the record and clerical work involved in a large plant. Since the majority of plants are enclosed and visitors are restrained from entering except with cognizance of attendants in charge, and since a clerk or plant chemist will one or both be constantly on duty at the common point, it is desirable in most instances to arrange laboratory along the yard line at a gate entrance point. This will in most cases be done; even so, it is practical in most instances to pick a location along the fence line, which will save the plant chemist many steps and much time in the collecting of his samples. These will be drawn chiefly from the oil stream, the gasoline storage tanks, the stabilizer kettle and the in-going and out-going stream through plant.

It is important, if possible, to provide access of bench space in the laboratory with direct north light exposure for operating the color instrument.

Small Work Room

The work room, if well planned, need not be very large. Sixteen by twenty-four feet, or a total laboratory floor space of 484 square feet is ample. And this floor space can be made to serve the best possible purpose in the form of a wing extension from any other floor area with which it may be connected. In combined office and laboratory arrangement two other rooms should be sufficient even for the largest plant if space is provided in addition for shower bath, toilet, lockers for about six men and a stationary storage locker of liberal size.

Plan wall space should be provided and mounting made thereon of field gas line and leases to which they are connected, positions of all meters, drips, etc. Also, a comprehensive plant flow sheet and a general plan drawing of plant should be mounted.

Laboratory wall space should be devoted, conveniently to the mounting of gravity-temperature correction tables, blending and plant control record charts.

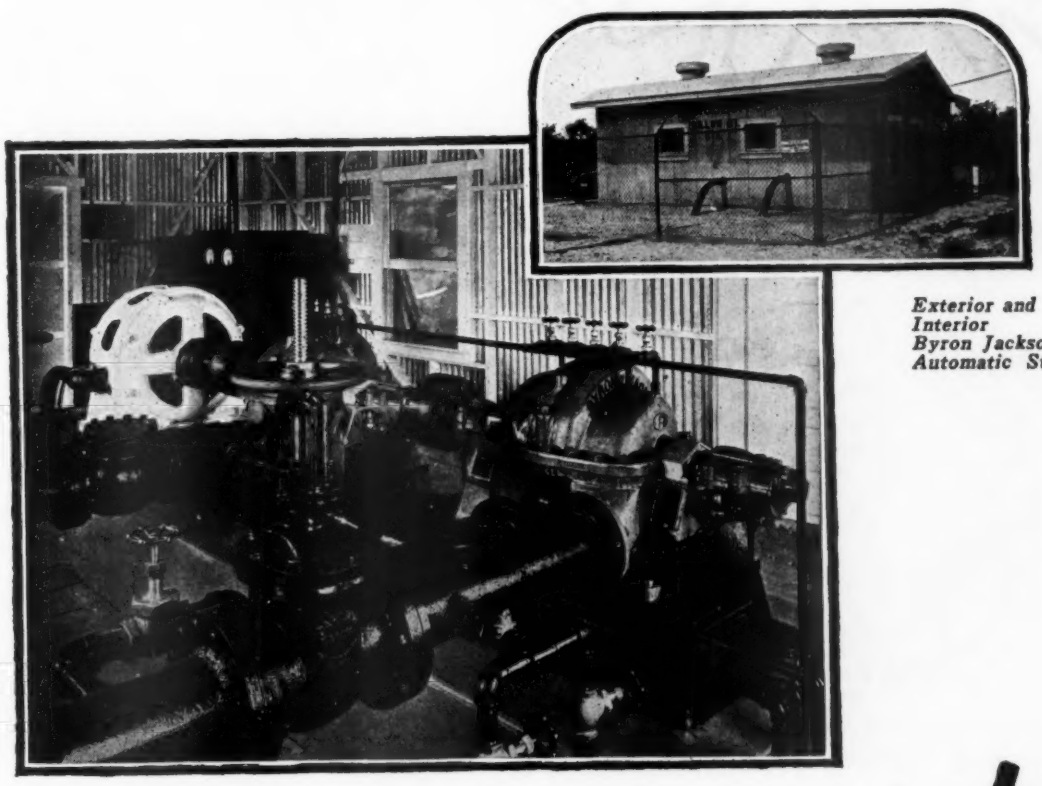
The building may in the main be of ordinary wood construction, preferably ceiled inside with a good grade of sheet rock, or plastered in all but the laboratory room. The latter should have special treatment with reference to fireproofing.

Concrete Floors

A material known commercially as transite board, which is a good grade of asbestos composition hard enough for rough usage, may be used for wall finish instead of plaster, if desired. The latter on steel lath is rather preferable for appearance. Laboratory floor should by all means be of concrete, 1¼ to 1½ inches of finish mixture may be poured on a steel-lathed base tied down to a shiplap floor which is tightly driven up on joists of spacing close enough to insure against deflection of more than ¼-inch for a 16-foot span; 2 by 8s, spaced 16 inches apart and well bridged will be amply strong. It is easy to make or set drainage connections through such a floor, and two or more such drains should be set in the open floor space. The ice box and lockers should be fireproofed on the outside by means of heavy galvanized sheet, or transite board. Bench supports should be all metal. And since cleanliness is essential, all corners at floor and wall intersections should be well rounded to cove form. Light and ventilation are most important. To conclude the discussion here, a list, more or less comprehensive, likely sufficient for ordinary requirements is given of necessary laboratory equipment. It is not best to give a list of chemical supplies in this connection as these come more in the realm of operation.

List of Laboratory Equipment, Apparatus Only

One distilling apparatus for water—automatic wall type; 1 laboratory balance—capacity 100 grams, sensibility 2 milligrams; one Westphal specific gravity balance; 1 hygrometer, Sling psychrometer; 1 ice cutting machine, hopper type; 1 ice box, capacity 200 pounds; 1 interval clock; 6 high temperature burners, Meker type for natural gas; 5 pounds assorted soft glass tubing 3 to 10 m.m. diameter; 1 Saybolt Universal chromometer; 1 Cleveland open cup flash and fire point tester; 6 ⅜-inch brass stopcocks with female and cone shaped serrated male nipple end, lever handle plugs; 1 10-inch Stilson wrench; 2 3-inch, 2 4-inch and 1 6-inch iron rings with 5/16-inch clamp screws for retort stands; 2 clamp holders, 90 degrees solid, for attaching to ½-inch support rods; 2 clamp holders with swivel for attaching to ½-inch support rods; 2 Hofman's improved form tubing clamps, open jaw-A; 1 dozen Day's tubing clamp Spring pinchcocks; 2 4-inch triangular slim taper files; 3 boxes each Dennisons



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CAMEL'S HAIR, COTTON AND LINEN PRODUCTS

Office and Factory: NEWARK, N. J.

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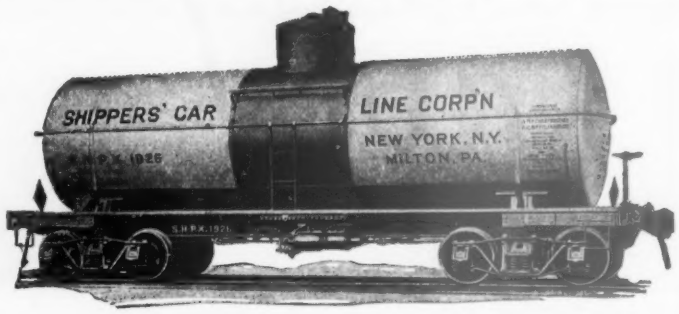

TANK CARS

FOR ALL PURPOSES FOR

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Substantial additions to our fleet have just been necessary in order to keep pace with the demands of our growing business.

Quick Service to All Points

Shippers' Car Line Corp'n

30 Church Street, New York, N. Y.

No. 209 and No. 261 gummed labels; 1 pencil sharpener.

One Transfer Pipette, 25 c.c.; 2 100 c.c. Burettes with straight stopcocks; 1 1,000 c.c. aluminum beaker; 2 sets, 8 each, 50 to 1,000 c.c. glass beakers; 3 pounds assorted cork stoppers, No. 4 to No. 7 size; 1 pound assorted cork stoppers, No. 0 to No. 3 size; 1 set steel tubing cork borers ⅛ to 7/16-inch; 1 cork borer sharpener; 1 corkscrew, self pulling; 2 dozen 100 c.c. graduated cylinders; 2 dozen 50 c.c. graduated cylinders; 2 only 250 c.c. graduated cylinders; 3 only 500 c.c. graduated cylinders; 2 only 1,000 c.c. graduated cylinders; 1 each 100, 250, 500 c.c. graduated cylinders with glass stoppers; 25 feet each 3/16-inch I. D. by 3/32-inch thick, ¼-inch I. D. by 1/16-inch thick, ⅜-inch I. D. by 1/16-inch thick rubber tubing; ¼ pound each Nos. 1, 2, 3, 4, 6, 9 rubber stoppers, solid; 1 paper shears, 6-inch blades; 2 ordinary type stop watches; 2 No. B rectangular base iron supports; 1 No. D tripod base iron support; 1 dozen assorted 3 to 8-inch length test tubes thin wall glass; 1 Dean-Stark water determination apparatus; 1 Conradson carbon residue apparatus; 6 complete A. S. T. M. distillation apparatus, less glassware; 2 corrosion test dishes; 6 vapor pressure bombs, complete with gauges; 2 metal case thermometers, 0 to 120 degrees Fahrenheit range; 2 12-inch cylindrical copper case with closed bottom thermometers, scale 10 to 120 degrees Fahrenheit; 6 distillation (certified scale) 30 to 580 degrees Fahrenheit range thermometers; 6 distillation (certified scale) 30 to 760 degrees Fahrenheit range thermometers.

One hand-power certifuge, 2 arm; 4 Goetz 100 c.c. settling tubes, graduated; 1 Farmer universal support; 3 20 to 40-degree 1/5 division, 13-inch combination hydrometers, A.P.I. scale; 3 80 to 100-degree 1/5 division, 13-inch combination hydrometers, A.P.I scale; 3 69 to 81-degree 1/5 division, 7-inch combination hydrometers, A.P.I. scale; 3 79 to 91-degree 1/5 division, 7-inch combination hydrometers, A.P.I. scale; 6 80 to 86-degree 1/10 division, 7-inch combination hydrometers, A.P.I. scale; 6 85 to 91-degree 1/10 division, 7-inch combination hydrometers, A.P.I. scale; 1 dozen 150 c.c. Pyrex Engler flasks; 3 only 250 c.c. Pyrex Engler flasks; 6 700 c.c. Pyrex Engler flasks; 3 1,000 c.c. Pyrex Engler flasks; 3 Hays Analyzers, compact portable type for determination of oxygen, CO_2 and CO.; 1 specific gravity apparatus, Lux balance type for gas; 2 specific gravity apparatus, effusion type for gas; 3 dozen 1-pint size citrate magnesia bottles; 3 dozen 20-ounce ordinary plain round bottles; 1 gross 4-ounce oil sample bottles, ground bottoms; 1 dozen 2-hole steel sampling bombs, fitted with 2¼-inch globe valves and 2¼-inch bull plugs each; 1 special distillation apparatus for charcoal designed to operate with mercury under 30 pounds per square inch pressure with steel retort flask and closed visibly graduated receiver; 1 gas engine indicator with complete range of springs from 10 to 150 pounds per square inch; 2 small gas meters of semi-precision type, any good commercial service meter will do; 2 dozen charcoal absorption tubes; 1 dead weight gauge tester; 4 5-gallon hand fire extinguishers; 4 2-quart hand fire extinguishers; racks for glassware and a liberal supply of small fittings and small tools, tack hammer, pliers, screw driver, adjustable wrenches, glass cutter, gauge cutter, small chisel, hand punch, a little bench vise, gimlet, etc.; 1 Johnson's first aid kit.

GOLDELLINE BUYS PROPERTY

The Goldelline Oil Corp. of Oklahoma City announces that it has acquired the interest of the Buttram Petroleum Corp. and others, in acreage formerly held jointly with Goldelline in Hutchinson County, Texas. The Goldelline corporation holdings now include the NE of Section 89 and the NE of Section 130, Block Z; the W half of the McDaniel survey, the N half of the SE of Section 15, Block XO2, the W half of the S quarter of Section 20, the S half of the S quarter of Section 23, the E half of the S quarter of Section 24, and the N quarter of Section 27, Block 47, H. & T. C. R. R. Co. survey. The transaction, it is said, was based on valuations for eight separate tracts ranging from $300 to $1,500 an acre. Three wells have been started and other locations will be staked immediately.

Executive Order Land Leasing Bill Passed; Royalties to Indians

By Charles E. Kern
Washington Bureau,
The Oil and Gas Journal

WASHINGTON, D. C., June 26.—Oil and gas leasing on unallotted lands on executive order Indian reservations are authorized by House Bill No. 9133, as agreed to by the Senate.

This bill makes the leasing requirements now pertaining to reservations created by treaty or act of Congress also applicable to reservations created by executive order. Approximately 23,000,000 acres will be opened by the bill. A Navajo reservation in Arizona, New Mexico and Utah is the largest area affected.

All royalties from oil and gas will be given to the Indians. The states would be authorized to tax the production of oil and gas.

The bill also extends relief to permittees and applicants who have in good faith sought to discover oil and gas under the general leasing act of 1920.

One amendment adopted reinstates certain applications filed prior to May 27, 1924. Such applicants must have expended money on geologic survey, road construction and oil drilling.

Another amendment adopted prevents further changes in executive order reservations without the consent of Congress.

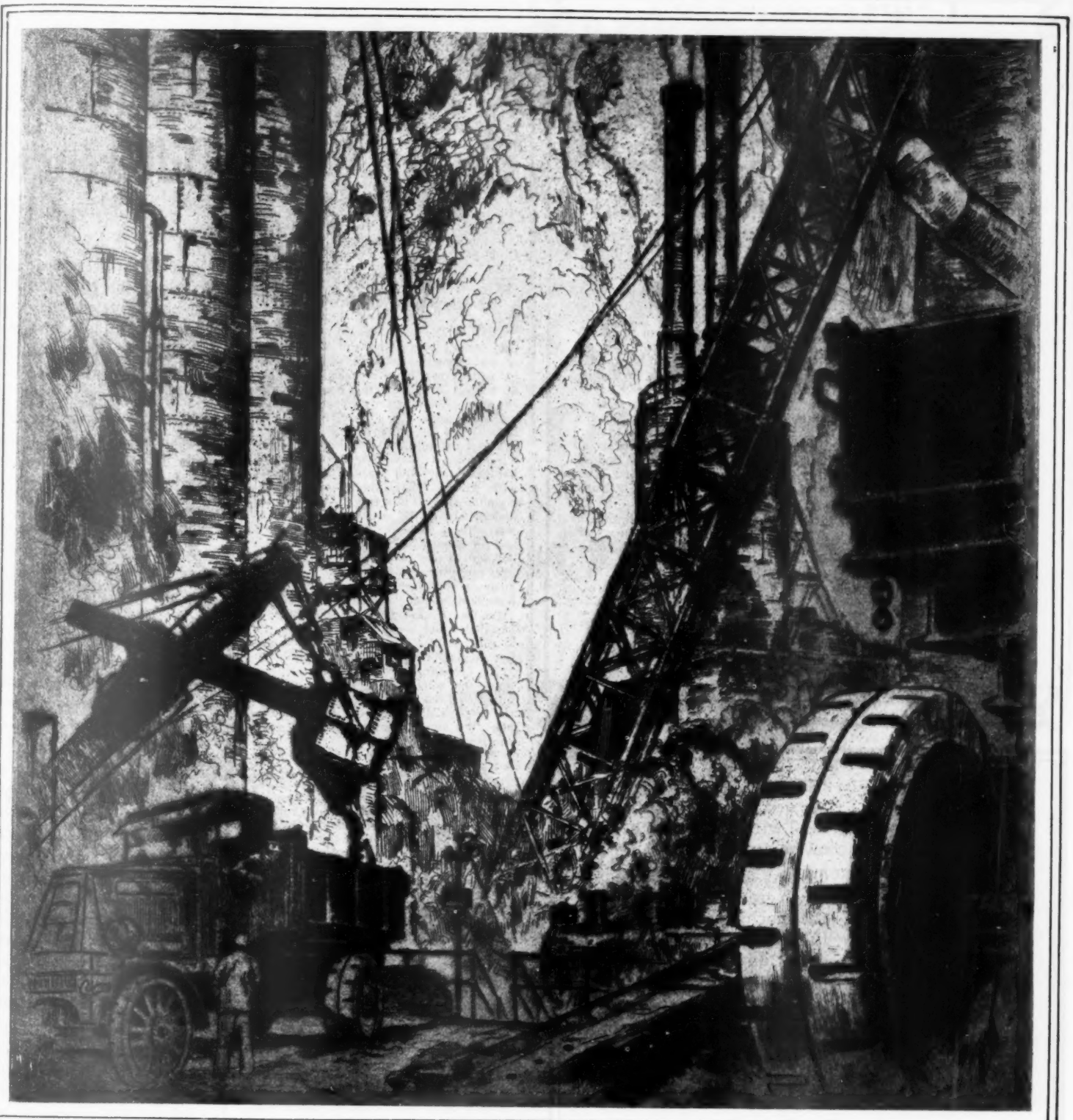
In the House Representative Sproul of Kansas made an extensive attack upon the bill on the ground that the Indians do not own the executive order land, 9,000,000 acres of which were taken from the public domain. The report of this legislation, he declared, would be to give 95 per cent of the oil in these reservations to the oil companies. He reminded the House that the Supreme Court of Utah has declared this executive order land belongs to the Federal Government and he did not think that the House should reverse this decision which is now pending in the Supreme Court of the United States by passing this legislation giving the land to the Indians.

After considerable debate the following amendments were adopted:

"Sec. 3. That taxes may be levied and collected by the state or local authority upon improvements, output or oil and gas wells or other rights, property or assets of any lessee upon lands within executive order Indian reservations in the same manner as such taxes are otherwise levied and collected, and such taxes may be levied against the share obtained for the Indian as bonuses, rentals and royalties, and the Secretary of the Interior is hereby authorized and directed to cause such taxes to be paid out of the tribal funds in the treasury: Provided, that such taxes shall not become a lien or charge of any kind against the land or other property of such Indians.

"Sec. 4. That hereafter changes in the boundaries of reservations created by executive order, proclamation or otherwise for the use and occupation of Indians shall not be made except by act of Congress: Provided, that this shall not apply to temporary withdrawals by the Secretary of the Interior.

"That any applicant for permit filed prior to May 27, 1924, under the provisions of said act of February 25, 1920, which permit was not issued, for any lands covered by the provisions of this act, who shall show to the satisfaction of the Secretary of the Interior that he, or the party with whom he has contracted, has done all of the following things, to wit, expended money in geologically surveying the lands covered by such application, has built a road for the benefit of such lands, and has drilled



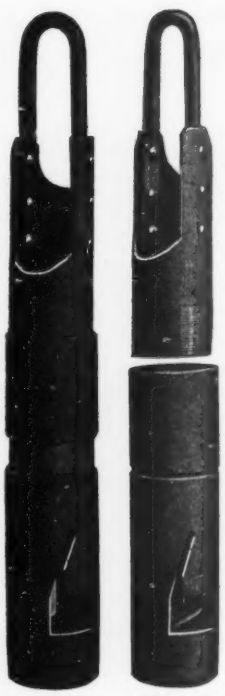
Etching made for the Kelly-Springfield Tire Company by O. Kuhler, Pittsburgh

WHEREVER heavy burdens are to be carried, or unusually trying road conditions encountered, truck owners can depend upon Kelly Kats—the original notched-tread truck tires—to solve their tire problems. The reason is simply that no other type of tire offers the same combination of traction, resiliency and mileage.

KELLY-SPRINGFIELD TIRES

BAKER CASING SHOE CO.

Positive Action



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BAKER

Cement Dump Bailer

The operation of the Baker Cement Dump Bailer is positive, never failing to dump.

The design is extremely simple—no chains, latches, springs, plunger bottoms, or other trouble-causing features. There is nothing to hinder full efficiency. The construction is sturdy and accurate. Hundreds of big operators give no further thought to bailers; they have standardized on Baker, for that ends bailer troubles.

The Baker Cement Dump Bailer is furnished in top and bottom only, with standard casing threads to permit elongation by using any desired number of joints of tubing or casing. It is supplied in all standard sizes from 2" to 8¼", tops and bottoms separate or combined.

Special folder sent on request.

Baker Casing Shoe Company

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George J. Hausen, Inc., Representative, Taft, California
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TWO valuable advantages result from the use of Twin Disc clutches in oil field machinery.

Owners and operators have much greater assurance that the machine will deliver its full output of work all day every day.

The machines last longer because the Twin Disc clutch absorbs such a large proportion of the shocks and strains set up by sudden heavy loads.

TWIN DISC CLUTCHES

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San Francisco—F. Somers Peterson Co., 57 California St.
Los Angeles—Coast Machinery Corporation, 406 E. Third St.
Chicago—Motive Parts Co. of America, Inc., 2419 Indiana Ave.
Indianapolis—Motive Parts Co. of America, Inc., 531 N. Capitol Ave.
Des Moines—Motive Parts Co. of America, Inc., 1204 W. Grand Ave.
Detroit—Whitney Brothers, 6464 Epworth Blvd.
New York City—R. George & Co., Broome & Wooster Sts.
Raleigh, N. C.—Motor & Equipment Co., 215 E. Davie St.
Cincinnati—Motive Parts Co. of America, Inc., 228 E. Eighth St.
Cleveland—James R. Howell, 6715 Quimby Ave.
Tulsa, Okla.—Buda Engine Service Co. of Tulsa, Inc.

TWIN DISC CLUTCH COMPANY
RACINE WISCONSIN

or contributed toward the drilling of the geologic structure upon which said lands are located, may have the right of prospecting and leasing as provided in this section."

As a prerequisite to awarding any drilling rights the following amendment was agreed to:

"Who shall show to the satisfaction of the Secretary of the Interior that he or the party with whom he has contracted has done any or all of the following things, to wit, expended money or labor in geologically surveying the land covered by such permit, has built a road for the benefit of such lands, or has drilled or contributed to the drilling of the geological structure upon which said lands are located."

RECLAMATION OF OIL FROM MEXICAN SUMPS

HOUSTON, Tex., June 26.—John Harris, coastal contractor and driller, and several associates have devised a method by which they hope to reclaim millions of barrels of oil in the heavy gravity sections of the Mexican fields. They have erected a plant 25 kilometers north of Tampico on the Panuco River.

There are millions of barrels of emulsified crude in sumps in Mexico, which has been there for years. It is covered with water. The Haines method of reclaiming this oil is a combination of heat and pressure. Experiments reduced the water from 22 per cent to less than 5 and eventually it is hoped to get this down to 2 per cent. Practically all the big corporations in Mexico have vast amounts of this emulsified oil, which they have been unable to handle. The Haines plant has a capacity of 2,500 bbls. per day, but is not being operated to capacity at present. The originators say, however, the success of the method is assured.

The charge for the service depends upon the condition of the oil and the number of times it has to be run through the treating plant before it is merchantable. The average is from 15 to 20 cents per barrel.

Treating plants are to be found in every pool in the Gulf Coast region of Texas and Louisiana. They are either chemical, mechanical or electrically operated, and the men in charge of such plants have become so efficient that the cost is just nominal now. Of course much depends on the character and condition of the crude. In some cases the cost is only a fraction of a cent per barrel.

Until a few years ago when these chemical or mechanical treating plants were installed, the expense of treating oil in the pools was very high. The method was simple and primitive. The oil was heated with steam coils and the water content drawn off, which was called "bleeding the tank."

In special cases engineers and chemists for the major companies have devised methods applicable to these difficult and hard to handle crudes. The Texas Company reclaimed a considerable quantity of crude on the north side of the West Columbia Pool by forcing it through coils of pipe filled with excelsior under pressure. The water and sediment adhered to the excelsior and was drawn off through petcocks on the bottom of the coils. Several hundred thousand barrels of otherwise waste oil was thus made merchantable.

Thousands of barrels in the old earthen reservoirs at Spindletop have been reclaimed by individuals and sold to the railroads for fuel. The mass of waste had been in the earthen tanks for years.

The refuse once so common around refineries is now being reclaimed so that waste has practically been eliminated. The slogan applied to the big packing plants of the country that "nothing is left but the squeal" can be applied to oil refineries, substituting smell for squeal.

ALBERTA OIL DECISION

CHATHAM, Ont., June 26.—That the Alberta Public Utilities Commission has no control over companies holding Dominion charters was determined by the Appellate Division of the Supreme Court

What A Difference!

7,000 years ago the traders along the Nile and Euphrates traveled the then known world on land and sea in slow caravans and small ships.

It took months to make the shortest journey. Hazards beset them on every hand.

Yet, with their crude methods they built rich empires—powerful and gorgeous in their luxuriousness.

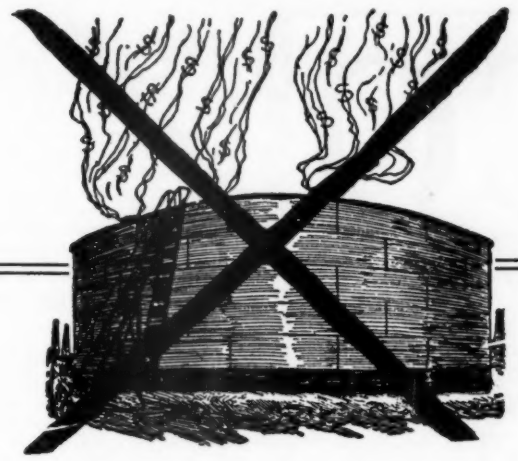
The 20th century man can influence thousands of prospects in the same time that it took the prosperous dealer of centuries ago to make one trip.

He uses the modern argosy—Advertisements in great publications like The Oil and Gas Journal, which enables him to acquaint more than 25,000 oil producers, refiners, natural gasoline manufacturers, pipe liners, marketers and exporters with his particular product or service in a short time.

Therefore, if you wish to buy or sell oil leases, production, royalties, used equipment or service, advertise in the Classified Wants Section.

Mail your ad today. Send your message on a prosperous trip around the oil world. It will bring back good results.

The Oil and Gas Journal
Tulsa, Oklahoma



Do You Know How Much It Costs You?

—*to store your oil in tanks not properly protected against evaporation**

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Breather Valves
Cable Sheave Brackets
Flame Arrestors
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Gauge and Thief Hatches
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On the Stills

Automatic Tar Plugs
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**Scores of companies have found out what it was costing them and as a result have Oceco equipped.*

THE gasoline vapors escaping from *unprotected* tank openings — are your dollars — invisible dollars — evaporating in thin air.

If you could only see them you wouldn't stand for their loss any more than you'd tolerate a leaking tank.

Evaporation is insidious—you cannot see it. You know it only by the toll it exacts from you. Yet most of it is preventable—by installing gas-tight, properly designed fittings.

It costs you nothing to investigate. One of our engineers will gladly call and submit recommendations covering your particular conditions.

It will pay you to save the *invisible dollars.*

THE OIL CONSERVATION ENGINEERING COMPANY

Headquarters for Tank Equipment

877 Addison Road — Cleveland, Ohio

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OIL TANK OCECO EQUIPMENT

SAVES EVAPORATION AND PREVENTS FIRE

ASCO STEEL
STANDS SUPREME

Every step in the production of Asco Steel is watched closely. From the selection of the raw materials to the finished product, the first thought always is to produce a steel that will give the best results to the makers of Oil Well Tools. Can we help you to produce better tools?

DISTRICT OFFICE:
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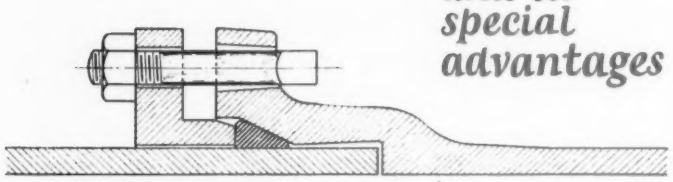
THE ANDREWS STEEL CO.
NEWPORT ASCO KENTUCKY

The Anthony
High Pressure Joint
and its special advantages



1. *Requires one-half the usual number of gaskets.*
2. *Invariable Diameter—outside surface smooth—offering a perfect seat for the gasket.*
3. *Malleable iron bolts resist corrosion and eliminate self-electrolysis due to use of dissimilar metals.*
4. *Cast iron follower ring remains rigid and if for any reason gasket has to be removed the ring can be driven back without bending.*
5. *Changes and connections may be easily made using plain end pipe and an all cast iron coupling.*

Makers of deLavaud Centrifugal Cast Iron Pipe

High pressure gas distribution is now accepted as good engineering practice and offers a material saving over a low pressure system. deLavaud centrifugal pipe equipped with the Anthony Joint gives a line of unusual flexibility, tight under the maximum pressures used in distribution.

Equipped with a lead or duck-tipped gasket these joints may be employed for either manufactured or natural gas.

If desired, deLavaud centrifugal pipe can be shipped in 24-foot lengths with a welded joint in the middle. Such an installation as this requires only 220 gaskets to the mile—one quarter of the usual number.

United States Cast Iron Pipe and Foundry Company

SALES OFFICES
Philadelphia, Chicago, Birmingham, Buffalo, Cleveland, New York, San Francisco, Pittsburgh, Dallas, Kansas City, Minneapolis

General Offices:
Burlington, New Jersey

of Alberta, when it allowed the appeal of the Big Chief Oil Co. against its conviction by Magistrate Sanders of Calgary for selling shares without first obtaining a certificate from the provincial utilities board. The appeal court held that the Provincial sales of shares act had no application to companies holding charters from the Dominion Government. The appeal settles the question once for all for the other companies holding charters similar to that of the Big Chief Oil Co.

FIRE RECORD ON OIL IS BEING COMPILED

Work is now under way by the general committee on Fire Prevention of the American Petroleum Institute toward the compilation of a fire record covering every branch of the oil industry, to be published annually. Dr. R. P. Anderson, temporary chairman of the committee, has sent out a letter and a questionnaire to producers, carriers, refiners and marketers and is asking any company and individual in the oil business to supply the data for a record which, it is believed, will be of great value to the industry.

In his letter he states:

"The American Petroleum Institute is undertaking to compile, under the direction of its general committee on fire prevention, the fire record of the petroleum industry. Its first activity along this line arose out of a controversy with the National Fire Protection Association over the table of distances between tanks and property line contained in its suggested ordinance for the use, handling, storage and sale of flammable liquids, and consisted of an attempt to compile and analyze the tank fire record of the industry for the 10-year period, 1915-1924, inclusive. The results obtained from this survey of tank fires were published as a report on records of oil tank fires in the United States—1915-1925—with conclusions drawn therefrom, with which you, no doubt, are familiar.

"In the latest form of the suggested ordinance, as agreed upon at the annual meeting of the National Fire Protection Association, held at Atlantic City, May 10-13, 1926, there has been a very substantial reduction in the schedule of distances from tanks to property line, and this revision may be considered as one of the direct results of the study of the fire record of the industry.

"The program now being carried out calls for the compilation of the fire record beginning with January 1, 1925, in order that there may be no gap following the recent survey, and for the current fire record from this time on: it is also planned to cover not only tank fires, but all fires involving petroleum. Such a record will, no doubt, be of increasing value to the petroleum industry as time goes on, not only from the standpoint of securing sane regulations on petroleum by states and municipalities, but also in providing information of value in the reduction of the fire loss of the industry to the lowest possible figure."

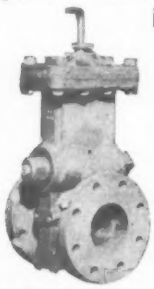
PRESENT OPERATIONS IN THE BURMAH FIELD

OIL CITY, Pa., June 26.—That the oil producing territory of Burmah will some day produce oil in as great quantities as the largest of the American oil fields, is the belief of George O'Mara, superintendent of the British Burmah Petroleum Co.'s operations at Chauk in Upper Burmah, who has been spending several days in Oil City studying the Hild drive at the Imperial works of the Oil Well Supply Co.

The Pennsylvania oil fields and the Oil City district are familiar sights to Mr. O'Mara. He was born at Pithole, where his father was one of the pioneer operators, and then went to Bradford. He was a driller in the Bradford and Ohio oil fields before he went to Burmah 19 years ago. He has been with the British Burmah Petroleum Co. for 19 years. Until three years ago cable methods were in use there, but during the past three

ROBINSON
Orifice Fitting

Fitting complete takes the place of all the old "hook-ups." There is a remarkable saving in meter installation. The hazard attending a plate change in the old "hookup" has been entirely eliminated. The facility with which the plate is removed permits and encourages frequent inspection and micrometer checking of the orifice diameter. Oil and sediment can be prevented from stacking on the upstream side of the orifice plate. The gas passage is machined to the diameter used in establishing the coefficient.



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ARMSTRONG BROS.
CHAIN PIPE VISE
DROP FORGED STEEL
The Ideal Portable Vise
RAPID, STRONG, COMPACT
One turn of handle releases or grips pipe.

ARMSTRONG BROS. TOOL CO.
330 No. Francisco Ave., Chicago, U.S.A.

Not Costly!

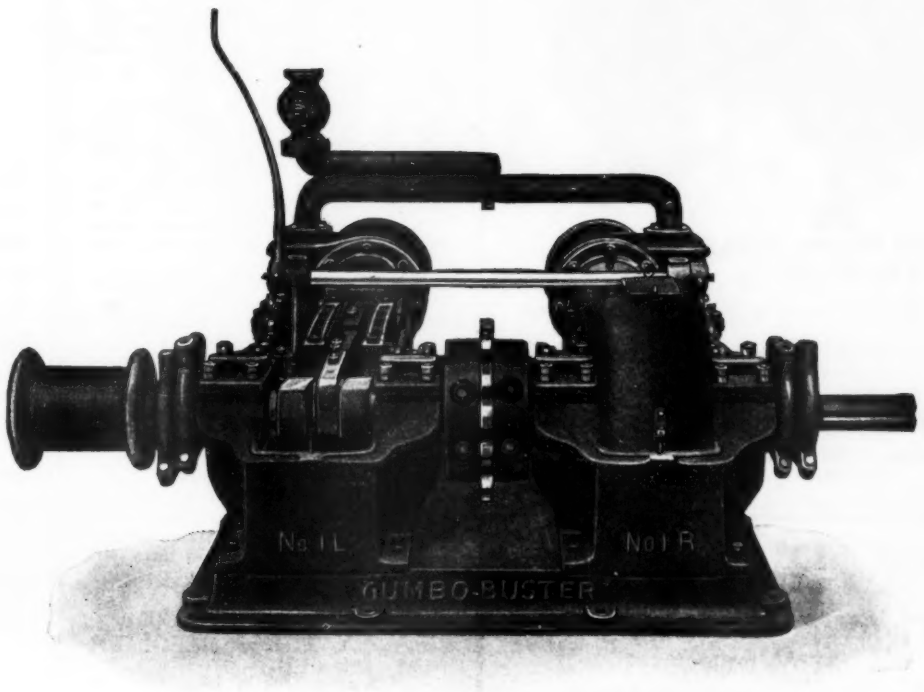
$5.50 will pay for inserting a five-line advertisement in the Classified Wants Section for one month.

20,000 or more readers study it every week.

Classified Wants Section
"Biggest in America"

The Gumbo Buster Twin Cylinder Drilling Engine

The First Oil Bath Drilling Engine



Four Bearings One-Piece Crank Shaft

Large Cylinders—Ample Power

The large cylinders (12 inches in diameter, 12 in. stroke) give ample power for lifting long strings of heavy drill pipe in the high speed of the draw works, permitting the engine to be run slower, thus increasing its life. Abundance of power permits heavy loads to be handled without unnecessary jerks and strain.

Four-Bearing, One-Piece Crank Shaft

Crank shaft rests in four main bearings and is a solid double throw steel forger. Cranks are forged on quarters so there are no dead centers. This one-piece, heavy four-bearing crank shaft prevents vibration and assures rigidity under the most severe drilling conditions; it eliminates possibility of shaft kinking for it reduces the distance between the two inside main bearings, allowing only the necessary width for the split engine drive sprocket.

The First Oil Bath Drilling Engine

Engine is enclosed and the working parts run in a bath of oil, preventing dirt and grit from getting into working parts and assuring constant lubrication at all times. It also permits a closer adjustment of the brasses and other bearings because bearings are always covered with a shower of clean oil which eliminates all danger of their heating.

Valve Rigging on Outside

The eccentric blocks and straps, the eccentric blades, the valves, steam chest and all valve mechanism are on the outside of the engine where adjustment can be easily and quickly made. Valve mechanism cannot be harmed should the engine chain break or jump the sprocket.

The Gumbo Buster Twin Cylinder Drilling Engine can be run as a single cylinder engine in case one cylinder should be put out of commission.

This can be quickly accomplished by slipping a regular size fly wheel on either end of the crank shaft which extends beyond both outside main bearings. This feature will not only reduce the shut down time for repairing engine, but may also prevent the loss of the hole should one cylinder of the engine break down while the drill pipe is in the hole.

Sold Only By

Republic Supply Company

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ROTARY AND CABLE TOOLS

OKLAHOMA TEXAS ARKANSAS LOUISIANA

FOR YOUR LARGER LIGHTING REQUIREMENTS

TYPE 6 MOON TURBO GENERATOR
3 and 4 K.W.

Especially adaptable for lighting pumping stations, leases, gasoline plants.
The last word in generator design—contains all the new improvements. Its oiling system is a wonder—only 2 points to oil.
Write for Bulletin No. 6, which gives full information.

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McGREGOR WORKING BARREL

McGREGOR

"The Working Barrel That Works"

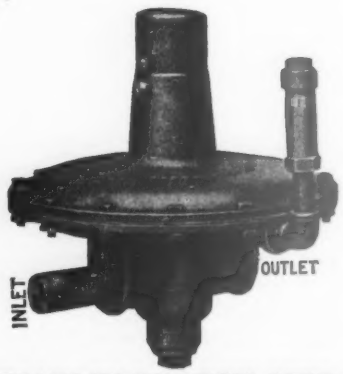
Over fifty-five thousand now in use from Pennsylvania to Argentine and from Oklahoma to India wherever oil is produced.
No Barrel can compete with the McGregor in price. It comes with the barrels, valves, valve stem all complete at a price slightly more than what the old style Barrel would cost. Pumps as fast as regular barrels that are attached to the tubing.
The only pulling done when you have a McGregor in use is the rods as the complete Barrel is fastened to the rods and comes out when they are pulled. TUBING PULLING is done away with as far as the Working Barrel is concerned. Use "Mac" Ball and Seat.

See your dealer or write us for circular
In ordering parts refer to these letters

McGREGOR WORKING BARREL CO., Inc.
Sole Manufacturers
BRADFORD, PENNA.

FULTON HOUSE-SERVICE REGULATOR

Equipped with a highly efficient spring valve which automatically reduces high intake pressures to any desired degree. Its strong feature is the valve seat which our catalogue fully explains. Send for your copy today.



CHAPLIN-FULTON MFG. CO.
28-36 Penn Ave., Pittsburgh, Pa.

55

years the rotary has been placed in use. The wells there are drilled 3,000 feet.

Mr. O'Mara contends that the development of the Burmah oil fields has only been started on account of the transportion difficulties encountered. There are no roads in the jungle and the operations have to be carried on along the banks of the Irrawadi River, where supplies can be brought by steamer. Some test wells have been drilled as far as 100 miles from the river which have found oil, he says.

There are two fields in Burmah—Yenang Yaung, the oldest field, which was started by the natives 100 years ago, and Chauk, which was opened about 1900, Mr. O'Hara says. There are now 300 producers there which start off at about 500 bbls. natural and then settle down to 50 or 60 bbls., the oil being 36 gravity paraffin base, he stated.

"The largest companies refine their own oil, but the smaller ones sell their crude, realizing about $4 a barrel," he states. "The Burmah Field is one of the oldest in the world, the natives there having dug wells four feet square and 400 feet deep about 100 years ago. The first pipe line in the world was soon after built there by the Burmese, being constructed of bamboo and being 1½ miles long, from the well to the river."

Tools and drilling equipment from the Imperial Works of the Oil Well Supply Co. are extensively used in the Burmah oil fields and give satisfaction there, Mr. O'Mara says.

POLAND GETTING MORE NATURAL GASOLINE

By Charles E. Kern
Washington Bureau,
The Oil and Gas Journal

WASHINGTON, D. C., June 26.—There has been a great increase during recent years in the Polish production of gasoline from natural gas, a development which is illustrated by the increase in production since 1919, when the output amounted to only 460 metric tons, while 9,790 tons were produced in 1925, according to advices to the Department of Commerce from Consul Walter A. Leonard, Warsaw. In view of the extensive resources of natural gas in Poland and the improved methods of refining from lower grades, it is believed in Poland to be probable that there will be a continued increase in the production of natural gasoline in that country.

Although Polish natural gas has in recent years deteriorated somewhat in quality, improved methods of treatment have permitted the utilization of inferior grades. In 1920, statistics show that 1 cubic meter of natural gas produced 130 grams of gasoline, while in 1925 only 84 grams were produced per cubic meter. Originally gasoline was refined in Poland from natural gas by compression. This system has now been replaced by the absorption process, using a special grade of charcoal which is imported usually from Czechoslovakia. The commercial treaty between Poland and Czechoslovakia provides for a 90 per cent reduction in duty on Polish imports of such charcoal. It is estimated in Poland that the 1926 requirements for this charcoal will amount to 20 carloads.

The gasoline blends most frequently used in Poland range in specific gravity from 0.702 to 0.743, the former being two-thirds natural gasoline, while all of the others are more than half—in one case four-fifths—petroleum gasoline.

Polish production of natural gas in 1925 amounted to 535,010,633 cubic meters, of which 116,165,895 meters were used for the production of 9,793 metric tons of gasoline. Domestic consumption of this gasoline came to 7,980 tons, of which only a small part was used directly, the bulk going to refineries for mixture with heavier grades of gasoline. Exports of natural gasoline in 1925 totaled 1,127 tons, 945 tons going to Czechoslovakia, 130 tons to Austria, 48 tons to Hungary and 4 tons to Danzig. Poland is now experiencing some difficulty in disposing of light grades of gasoline, which once formed the greater part of

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This is but one of many letters received asking for back numbers of The Oil and Gas Journal. In this case the entire edition was sold out and inquiries failed to find one that could be sent to Mr. Hares.

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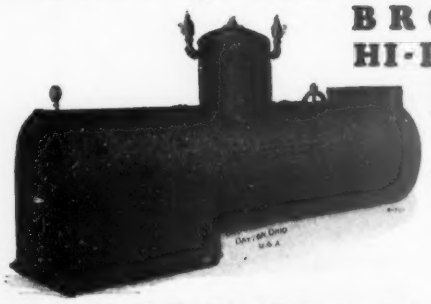

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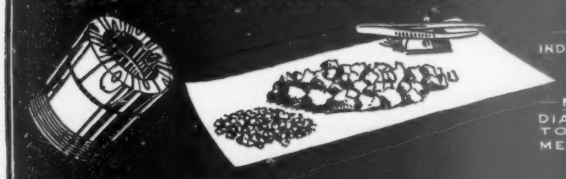

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the exportation to Germany, Czechoslovakia and Austria. New import regulations, trade prohibitions and a changed demand for automobile use are reported to be responsible for the reduced foreign market for the lighter grades.

PRESIDENT AUDUJAR ON ANDES' OUTLOOK

By Victor Lauriston

CHATHAM, Ont., June 26.—Discussing the operations in the Venezuela fields of the Andes Petroleum Corp., President Andujar states:

"Recent developments in the district of Paez seem to indicate that a triangular area of 200,000 acres will be added to the property on which the Andes-Atlantic may place their concessions. This is territory on which the Andes-Atlantic has not figured heretofore, and the geologists consider it very attractive, so the Andes is very fortunate at this unexpected turn of affairs. This will not add to the amount of the Andes concessions, but merely permit it to place some of its 40 concessions in Paez more advantageously.

"The Maxudian interests have appealed against the decision of the Secretary of the Interior permitting the Andes-Atlantic to select in the territory in question, but the case is expected to be finally decided in our favor.

"Recent reports from Mara seem to indicate that the geologists consider this section the best unproved territory in Venezuela. Three structures have been discovered, and the foldings are good, and there is a possibility of large oil pools in the sands below, which are estimated to have a thickness of approximately 600 feet. In regard to these properties, geologists state that on account of these lands being situated in the Maracaibo Basin, they would be worth in the neighborhood of $20 an acre, and that now, in view of what has been discovered, they are well worth 20 times that price.

"About 50 hectares of land have been acquired in the vicinity of Carrasquero, jointly by the Andes-Atlantic, where terminals, warehouses, camps, etc., are being constructed. The first core well was commenced near this location three weeks ago. The present intention is to drill two or three more of these core wells, and if the indications therefrom are good the Andes-Atlantic will in the course of a few months more commence the drilling of a standard well and also start a standard outfit in the El Tigre tract, where the Gulf will drill at least two regular wells, starting probably in September next.

"The location for this Gulf well has been selected, and they are getting their machinery ready now. When the Gulf brings in a producer the Andes-Atlantic will be ready to drill offset wells, so in all we can look forward to considerable activity in both Mara and Paez during the next few months."

RUSSIAN OIL REPORT 16 PER CENT INCREASE

By Charles E. Kern

WASHINGTON, D. C., June 26.—Russian oil production during the first half of the current Soviet fiscal year, was 3,783,000 metric tons, an increase of 16 per cent over the same period of last year, and oil exports for the period were 627,000 metric tons, an increase of 24 per cent, according to a report received by the Russian Information Bureau. Production was 86.5 per cent of the rate for 1913 and exports were nearly 140 per cent of the rate for 1913.

Exports showed a falling off, compared with last year, in kerosene and machine oil and big advances in crude oil, gasoline and fuel oil. Britain and her colonies are still the leading customers, taking 29 per cent of the exports, but showing a sharp falling off from last year's figures of 37 per cent. Italy received 28 per cent of the exports, a great increase over last year, exports to France doubled, reaching 17 per cent of the total, and exports to Germany remained stationary at 18 per cent of the total.

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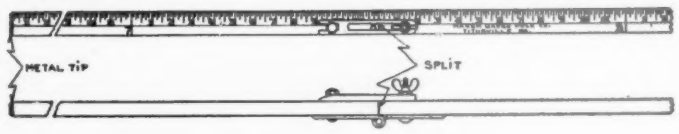

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Drilling in Colombia As Reported by the United States Consul

By Lester L. Schnare*
U. S. Consul at Cartagena

Although there was considerable drilling activity in various parts of Colombia during 1925, no new field was reported and the only producing territory remained at the end of the year as at the beginning—the fields in the vicinity of Barranca Bermeja and Infantas, Department of Santander, about 350 miles from the coast of the Caribbean Sea.

It is commonly believed that large fields of oil exist, or have existed, in three general localities: Near the coast of the Caribbean Sea west of the Magdalena River; in the valley of the Magdalena River proper; and in the southeastern part of Colombia, in the plains beyond the mountains where the Rivers Orinoco and Amazon find their sources. Of the three, the coast of the Caribbean is the most attractive because of its accesibility to tidewater transportation, but numerous efforts to locate oil in commercial quantities in this field thus far have failed. Heretofore, exploitation in the Magdalena Valley may have been discouraged to some extent by the difficulty and expenses involved in conveying oil, if found, to tidewater. It is probable, therefore, that renewed efforts will be made in that locality on the completion of the oil pipeline from Barranca Bermeja to Cartagena Bay. The region in the southeastern part of Colombia is too remote and difficult of access for profitable exploitation under existing conditions and no active development as yet has been reported.

The following paragraphs summarize briefly the activities of various oil companies in Colombia up to the end of 1925:

Along Caribbean Coast

An American company has drilled four wells in the vicinity of El Carmen and San Jacinto, in the Department of Bolivar, about 50 miles from the Caribbean Sea. At El Carmen well No. 1 was abandoned at a depth of about 4,100 feet and well No. 2 has reached a depth of 3,600 feet and is still being drilled. At San Jacinto, well No. 1 was abandoned at a depth of about 4,500 feet, and well No. 2 struck a heavy flow of salt water at 3,645 feet, but work was continued to a depth of 3,650 feet, and is still progressing.

Another United States company drilled two wells on one location near the village of Usiacuri, Department of Atlantico, about 15 miles south of Puerto Colombia, and approximately 10 miles from the Caribbean coast, but abandoned both at a depth of about 1,500 feet on account of caving formations. It is now reported ready to begin drilling the third well on the same location.

A British company is drilling near Tubara, Department of Atlantico, about 7 miles south of Puerto Colombia, the same distance from the Caribbean Sea, and close to the location of the American company last mentioned. In this locality seven wells have been drilled to depths ranging from about 150 to 3,160 feet, disclosing oil in small quantities, but nothing like commercial production.

Another British company is drilling a well on a location near the River Limon, a branch of the Canalete, about 30 miles from the Caribbean Sea in the Department of Antioquia, approximately 125 miles southwest of Cartagena. The location is new and the well has reached a depth of 2,700 feet without production.

A third American company withdrew from the locations on which it had drilled two wells near San Andres de Sotovento, Department of Bolivar, about 80 miles south of Cartagena and 40 miles from the Caribbean coast. The wells had been drilled to depths of 3,740 and 3,470 feet, respectively, without production.

Magdalena River Valley

This last named American company has also begun drilling operations on a loca-

*Commerce Reports.

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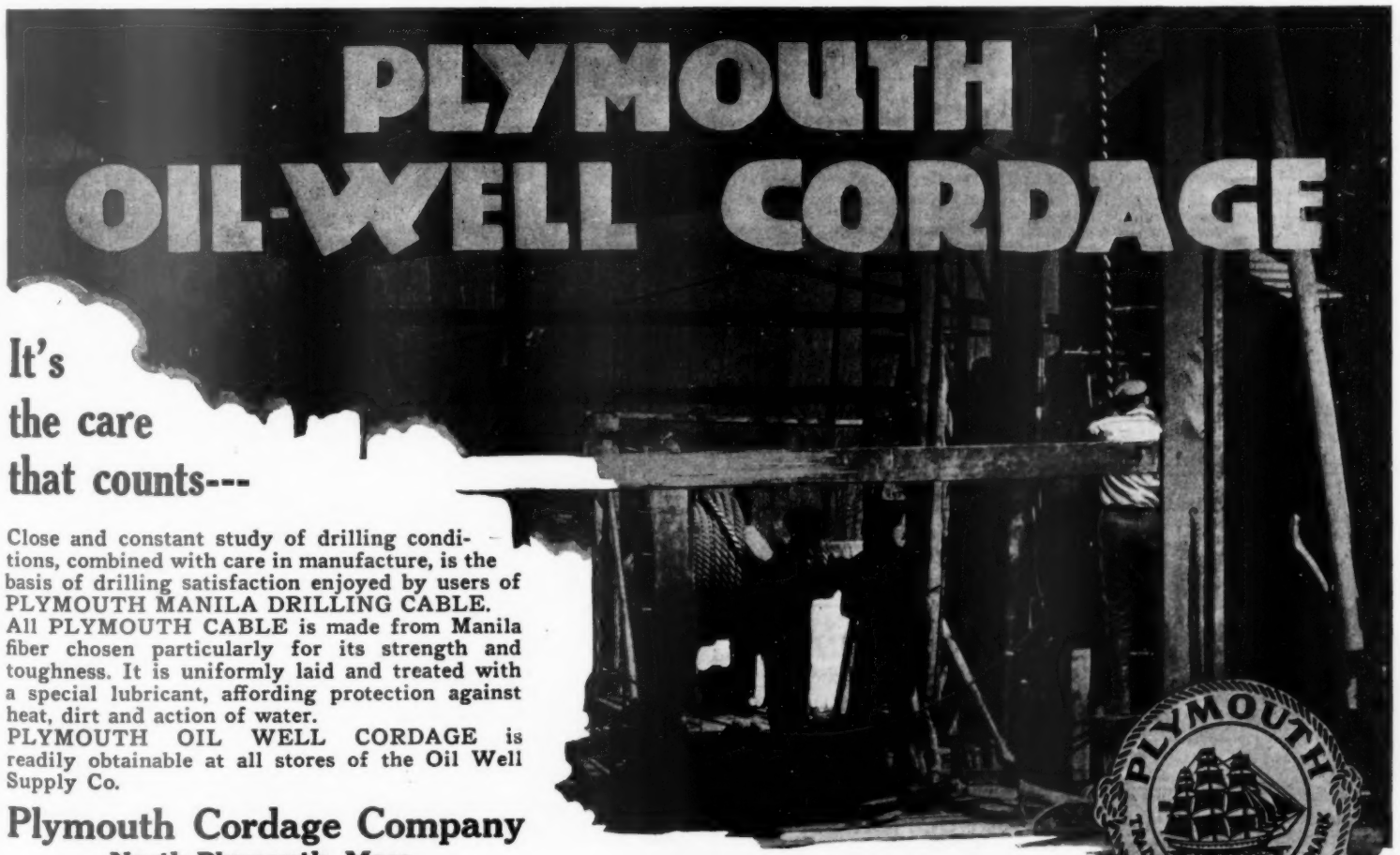

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tion about 20 miles east of Puerto Wilches, in the Department of Santander.

An American syndicate has concessions on the east side of the Lebrija River, beyond the Tigre River, in the Department of Santander. It is reported to have drilled six wells and obtained only a small production in well No. 6 at a depth of 2,600 feet. It is now preparing to drill on location No. 8.

An American company holds concessions close to, but north of, those of the syndicate. Two wells have been drilled without obtaining production, but no exploring was done by this company during the year.

Another United States company has drilled three wells in the western part of the Department of Cundinamarca, a short distance north of the city of Giradot in the vicinity of Guataqui and Chicua, without obtaining oil in commercial quantities, although the first well produced a flow of 2 to 4 bbls. per day. It is now drilling a well a considerable distance south of the other locations and just east of Honda.

A British company holds small concessions close to the producing fields, but did no exploring during the year.

Another United States company controls concessions near Honda, Department of Tolima, near Puerto Wilches, Department of Santander, and along the shores of Cartagena Bay and in the vicinity of Chinu, Department of Bolivar.

PENNSYLVANIA GRADE CRUDE AT EXPOSITION

BRADFORD, Pa., June 26.—The qualities of Pennsylvania Grade crude oil will be prominently exhibited at the Sesqui-Centennial celebration in Philadelphia this summer. H. P. Lewis and B. M. Shaub, instructors at Cornell University, are in charge of the exhibit, and were in Bradford recently visiting several local refineries.

Preparations have been made for a very attractive exhibit in keeping with the quality of Pennsylvania oil. This will be of special interest to all producers, refiners, marketers and jobbers, as contributions are being received from all branches of the Pennsylvania oil industry, which not only assures success from a financial standpoint, but by having so many individuals contributing it is bound to have the moral support and additional interest.

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Organization of the Border Research Corp. has been completed by the election of the following officers and directors: President, B. F. Bush, St. Louis; vice president, W. C. Hardcastle, Houston, Tex.; secretary and treasurer, Sidney P. Allen, Chicago; assistant secretary and treasurer, Leroy Bryan, St. Louis; directors, B. F. Bush; Sidney P. Allen; Henry H. Timken, Canton, Ohio; Henry Oliver, Pittsburgh, Pa.; E. F. Simms, Houston, Tex.; Lee Hager, Houston, Tex.; and W. C. Hardcastle, Houston, Tex. Border Research Corp. is chartered under Maryland laws with authorized capital of 2,500,000 shares of no par value. The corporation owns in fee approximately 1,457,000 acres of land in Mexico and approximately 700,000 acres in the Gulf Coast region of Louisiana; it also holds under lease mineral and oil rights in approximately 1,250,000 additional acres in the Louisiana coastal region.

PANHANDLE PIPE LINE

HOUSTON, Tex., June 26.—Pipeline officials here estimate it will require the expenditure of between $20,000,000 and $25,000,000 to extend trunk lines into the Panhandle field. The present production must increase very much and millions of barrels accumulated in storage before the expenditure of such vast vums will be justified, they say.

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Fig. 57

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The Kennedy Standard Valve is the standard in refineries and industrial plants all over the country. On steam, water, air, oil, gas and chemical pipe lines, it has been proving its thorough-going and lasting merit for almost half a century.

Kennedy Standard Valves thirty and forty years old or more are still serving on many a pipe line, too good to be replaced.

These valves are built in a wide range of sizes, with both stationary and outside rising stem, both screwed and flanged ends. They are described in the Kennedy Catalog, together with the entire Kennedy line of over 5,000 different types and sizes. Send for your copy.

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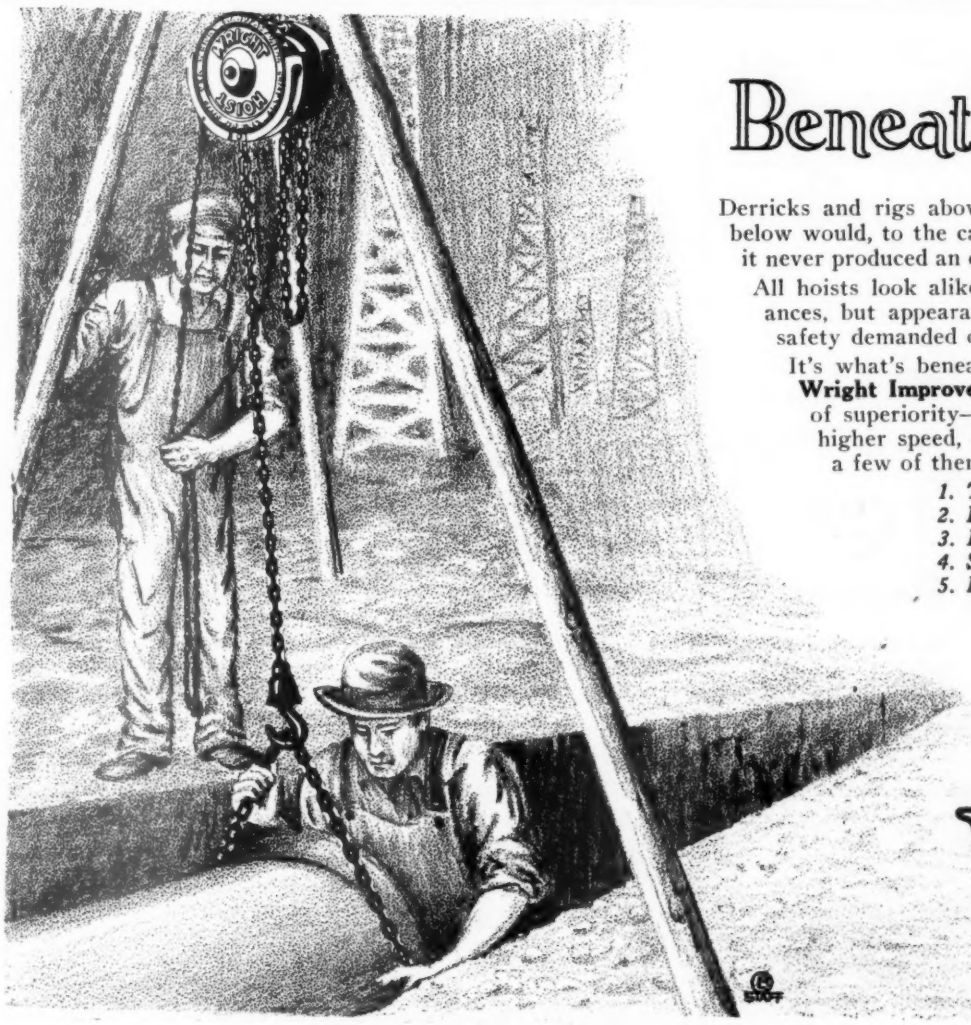

Beneath the Surface—

Derricks and rigs above ground with not a trace of petroleum below would, to the casual observer, be an oil field, even though it never produced an ounce of oil.

All hoists look alike, or nearly so, from all outward appearances, but appearances cannot give the stamina, speed, and safety demanded of hoists in oil or gas field.

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2. *Ball Bearing Lower Swivel Hook*
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Because all the brains in the oil industry, from its inception, put together, cannot place before you the concrete, complete and undisputable facts concerning the hole you are drilling. Cores taken with the "Elliott-Alco" Core Drill, give you this data, 100% correct and complete. Successive coring, missing no formation, guides every day's work with positive surety of a final, successful completion. Nothing else known today will.

The cost of "Elliott-Alco" Cores is slight; not much more than to drill with a regular bit. That your investment is safeguarded all that is mechanically and humanly possible is the "Why" of coring.

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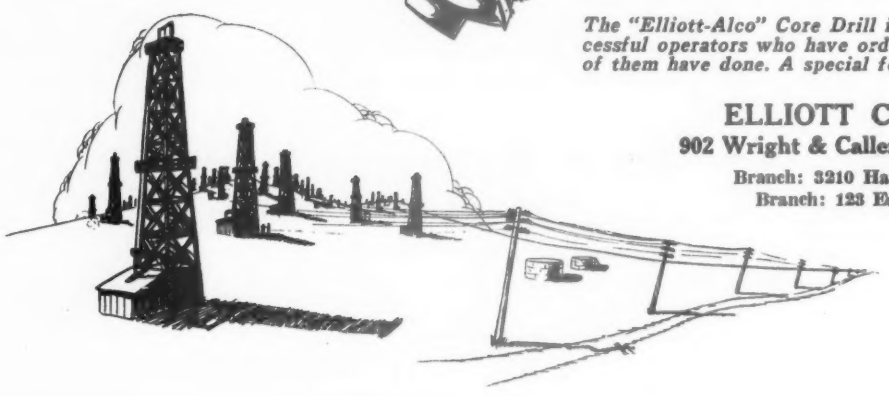

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In All Fields

WHAT AND WHERE TO BUY

A Classified Index of Advertisers in This Publication

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Campbell, J. A.
Cooper, C. & G., Co.
Griscom-Russell Co.
National Gas Products Co.
Newton Process Mfg. Co.
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Southwestern Engineering Corp.

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Columbian Rope Co.
Continental Supply Co.
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Plymouth Cordage Co.
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Frick-Reid Supply Co.
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National Supply Co.
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Williamsport Wire Rope Co.

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Patrick, R. S.

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North American Car Co.
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Continental Supply Co.
Emsco Derrick & Equip. Co.
Jarecki Mfg. Co.
National Supply Co.
National Tube Co.
South Chester Tube Co.
Spang, Chalfant & Co., Inc.
Superior Tube Co.
Wheeling Steel Corp.

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Byers, A. M., Co.
South Chester Tube Co.

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Hazard Mfg. Co.

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Guiberson Corp.
Oil Well Supply Co.

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Sivyer Steel Casting Co.

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Sivyer Steel Casting Co.

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Hills-McCanna Co.

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Link-Belt Co.

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Chain Belt Co.
Link-Belt Co.

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Federal Supply Co.
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Clamps—Collar Leak—
Dayton Pipe Coupling Co.
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Western Supply Co.

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Newton Process Mfg. Co.

Clamps—Pipe—
Dayton Pipe Coupling Co.
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Dresser, S. R., Mfg. Co.
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Nye Tool & Machine Works.

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Lunkenheimer Co.
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Homestead Valve Mfg. Co.

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Shaffer, J. E., Co.
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Dearborn Chemical Co.

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Sullivan Co.

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Sullivan Co.

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Air Cleaning & Reaming Corp.

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Clark Brothers Co.
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Gardner Governor Co.
Ingersoll-Rand Co.
Sullivan Machinery Co.

Compressors—Ammonia—
Carbondale Machine Co.
Cooper, C. & G., Co.

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Buffalo Gasolene Motor Co.
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Bessemer Gas Engine Co.
Miller Improved Gas Engine Co.

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Chicago Pneumatic Tool Co.
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Worthington Pump & Machinery Corp.

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Porter & Company.

Condenser Boxes—
Kaw Steel Construction Co.
Petroleum Iron Works Co.

Condensers—
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Chicago Pneumatic Tool Co.
National Gas Products Co.
Ross Heater & Mfg. Co.
Southwestern Engineering Co., Inc.
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Controllers—Automatic—
Brown Instrument Co.

Controllers—Liquid Level—
Fisher Governor Co., Inc.
Newton Process Mfg. Co.
Smith Separator Co.

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Smith Separator Co.

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Foxboro Co., Inc.
Taylor Instrument Co.

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Brady Conveyors Corp.

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Brady Conveyors Corp.

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Brady Conveyors Corp.

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Barber-Greene Co.

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Reed Roller Bit Co.
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Couplings—Flexible—
Nuttall, R. D., & Co.
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Dayton Pipe Coupling Co.
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Harrisburg Pipe & Pipe Bending Co.
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National Supply Co.
Oil Well Supply Co.

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Newton Process Mfg. Co.
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Walworth Co.

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Jarecki Mfg. Co.
Kellogg, M. W., Co.
Kennedy Valve Mfg. Co.
Metric Metal Works.
Oil Well Supply Co.
Reading Steel Casting Co.
Republic Supply Co.
United Iron Works, Inc.
Victaulic Co. of America.
Walworth Co.

Fittings—Steel—
Dayton Pipe Coupling Co.
Kerotest Mfg. Co.
Ohio Steel Foundry Co.
Walworth Co.

Flanges—Brass, Iron and Steel—
Jefferson Union Co.
Metric Metal Works.
Walworth Co.

Flange Unions—
Gaso Pump & Burner Mfg. Co.
Wheatley Bros. Machine Works

Flashlights—
National Carbon Co.

Floating Roofs and Decks—
Chicago Bridge & Iron Works.

Floodlights—
Pyle-National Co.

Forging Billets—
Andrews Steel Co.
Harrisburg Pipe & Pipe Bending Co.
Heppenstall Forge & Knife Co.

Forgings—
Champion Machine & Forging Co.

Fuel Oil (See Oil—Fuel)—

Fuller's Earth—
Sinclair Refining Co.

G

Gas Holders—
Chicago Bridge & Iron Works.

Gaskets—
Garlock Packing Co.
McCord Radiator & Mfg. Co.

Gaskets—Fibre—
Durabla Mfg. Co.

Gas Masks & Safety Appliances—
Mine Safety Appliance Co.

Gasoline—
Berry's, James B., Sons Co.
Crown Central Petroleum Co.
Empire Refineries, Inc.
Gulf Refining Co.
Magnolia Petroleum Co.
Pure Oil Co.
Sinclair Refining Co.
Skelly Oil Co.

Gasoline—Natural—
Chestnut & Smith Corp.
National Gas Products Co.
Skelly Oil Co.
Warren Petroleum Co.

Gasoline Plant Equipment—
Bessemer Gas Engine Co.
Clark Brothers Co.
Kellogg, M. W., Co.
McKee, Arthur G., & Co.
National Gas Products Co.
Newton Process Mfg. Co.
Ross Heater & Mfg. Co., Inc.
Widdell Engineering Co.

Gas Regulator Casinghead—
Davis, G. M., Regulator Co.
National Gas Products Co.

Gas Scrubbers—
National Gas Products Co.
Newton Process Mfg. Co.

Gauge Glass—High Pressure—
Durabla Mfg. Co.

Gauge Poles—
Marsh Gauge Pole Co.

Gauges—Automatic Tank—
Brooks Engineering Co.

Gauges—Draft—
Brown Instrument Co.

Gauges—Pressure and Vacuum—
Bristol Co.
Brown Instrument Co.
Equitable Meter & Mfg. Co.
Metric Metal Works.

Gauges—Test—
Equitable Meter & Mfg. Co.
Metric Metal Works.

Gear Driven Pumps (See Pumps)

Gears—Cut—
Nuttall, R. D., & Co.

Gears—Reduction—
Emsco Derrick & Equipment Co.
Nuttall, R. D., & Co.

Gears—Reverse—
Emsco Derrick & Equipment Co.

Generators—
Westinghouse Electric & Mfg. Co.

Generators—Acetylene—
Oxweld Acetylene Co.

Generators—Turbine—
Moon Manufacturing Co.
Pyle-National Co.
Westinghouse Electric & Mfg. Co.

Glassware—Chemical for Laboratory Use—
Illinois Glass Co.

Governors—
Equitable Meter & Mfg. Co.
Gardner Governor Co.

Governors—Boiler Feed—
Chaplin-Fulton Mfg. Co.
Fisher Governor Co.

Grey Iron Castings (See Castings)

H

Hammers—Chipping and Caulking Pneumatic—
Chicago Pneumatic Tool Co.

Hammers—Riveting Pneumatic—
Chicago Pneumatic Tool Co.

Hangers—Iron and Steel—
Continental Supply Co.
Dodge Mfg. Corp.

Hangers—Tubing—
Hercules Tool Co.

Hatches—Gauges and Thief—
Oil Conservation Engineering Co.

Heat Exchangers—
Carbondale Machine Co.
Griscom-Russell Co.
Hope Engineering & Supply Co.
National Gas Products Co.
Newton Process Mfg. Co.
Ross Heater & Mfg. Co.
Southwestern Engineering Co., Inc.
Southwestern Engineering Corp.

Heat Exchangers—Fluid—
Braun, C. F., & Co.
Ross Heater & Mfg. Co., Inc.

Hoists—Pneumatic, Geared and Universal—
Chisholm-Moore Mfg. Co.
Yale & Towne Mfg. Co.

Hoists—Portable—
Chisholm-Moore Mfg. Co.
Ford Chain Block Co.
Sullivan Machinery Co.
Wright Mfg. Co.
Yale & Towne Mfg. Co.

Hooks for Rods and Tubing—
B. & A. Specialty Co.
Dunn Mfg. Co.

Hose—
Fenwick-Reddaway Mfg. Co.

Hose—Drillers—
Goodrich, B. F., Rubber Co.
United States Rubber Co.

Hose—Oil Suction and Discharge
Goodrich, B. F., Rubber Co.
United States Rubber Co.

Hose—Rubber—
Goodyear Tire & Rubber Co.
United States Rubber Co.

Hypochlorite of Lime—
Mathieson Alkali Works, Inc.

I

Injectors—
Penberthy Injector Co.

Inspectors—Pipe—
Hunt, Robert W., Co.

Insulation Materials—
Celite Products Co.
General Insulating & Mfg. Co.
Johns-Manville, Inc.

Insurance—Fire—
Oil Insurance Association

Insurance—Tornado—
Oil Insurance Association.

Iron—Ingot—
American Rolling Mill Co.

J

Jacks—Hydraulic—
Bridgeport Machine Co.

Jacks—Lifting—
Templeton, Kenly & Co., Ltd.

Jacks—Pumping—
American Mfg. Co. of Texas.
American Wells Works.
Bessemer Gas Engine Co.
Braden Co.
Frick-Reid Supply Co.
Jones, S. M., Co.
Kansas City Hay Press Co.
Norris, W. C.
Spang & Co.

Jars—
Arbon, Paul, & Co.
Bridgeport Machine Co.
Spang & Co.

Jar Steel—
Andrews Steel Co.
Heppenstall Forge & Knife Co.

K

Kerosene—
Empire Refineries, Inc.
Gulf Refining Co.
Magnolia Petroleum Co.
Pure Oil Co.

L

Lacquers—
Arco Company, The
Sherwin-Williams Co.

Lanterns—Electric—
Delta Electric Co.

Lead and Mixed Metal Products—
Eagle-Picher Lead Co.

Lead in Oil—
Eagle-Picher Lead Co.
National Lead Co.

Lead Wool and Containers—
Eagle-Picher Lead Co.

Lighting Equipment—
Pyle National Co.
Westinghouse Electric & Mfg. Co.

Litharge—
Eagle-Picher Lead Co.
National Lead Co.

Loaders—Trucks—
Barber-Greene Co.

Long Distance Telephone—
American Telephone & Telegraph Co.

Lubricating Devices—
McCord Radiator & Mfg. Co.

Lubricators—
Ajax Iron Works.
Lunkenheimer Co.

Lubricators—Force Feed—
Hills-McCanna Co.
Manzel Brothers Co.
McCord Radiator & Mfg. Co.

M

Machine Tools—
Ryerson, Jos. T., & Sons, Inc.

Manholes—Tank—
Brooks Engineering Corp.

Manifolds—
Reid, Joseph, Gas Engine Co.

Meters—Gas—
Equitable Meter & Mfg. Co.
Foxboro Co., Inc.
Metric Metal Works.
Pittsburgh Meter Co.
Roots, P. H. & F. M., Co.
Westcott & Greis.

Meters—Electric—
Brown Instrument Co.

Meters—Gasoline—
Pittsburgh Meter Co.

Meters—Oil—
Pittsburgh Meter Co.

Molded Goods—Rubber—
Goodyear Tire & Rubber Co.

Motors—Electric—
Fairbanks-Morse & Co.
Westinghouse Electric & Mfg. Co.

Motors—Gasoline (See Engines—Gasoline)—

N

Naphtha—
Pure Oil Co.

Natural Gasoline (See Gasoline—Natural)—

Natural Gasoline Plant Equipment
Campbell, J. A.
Cooper, C. & G. Co.
Griscqm-Russell Co.
National Gas Products Co.
Roots, P. H. & F. M., Co.
Ross Heater & Mfg. Co., Inc.
Smith Separator Co.
Westcott & Greis.

Nitrogen—
Linde Air Products Co.

Nozzles—Spray—
Power Plant Equip. Co.

O

Oil and Gas Pipe Line Construction—
Hope Engineering & Supply Co.

Oil Burners (See Burners—Oil)—

Oil Field Equipment—
Baker Casing Shoe Co.
Bridgeport Machine Co.
Gaso Pump & Burner Mfg. Co.
International Derrick & Equipment Co.
Iron King Mfg. Co.
Kaw Steel Construction Co.
National Supply Co.
Oil Well Supply Co.
Parkersburg Machine Co.
Parkersburg Rig & Reel Co.
Reed Roller Bit Co.
Regan Forge & Engineering Co.
Reid, Joseph, Gas Engine Co.
Republic Supply Co.
Simplex Equipment Co.
Trumble Gas Trap Co.

Oil—Fuel—
Crown Central Petroleum Corp.
Empire Refineries, Inc.
Gulf Refining Co.
Magnolia Petroleum Co.
Pure Oil Co.
Sinclair Refining Co.
Texas Company, The

Oil—Gas—
Crown Central Petroleum Corp.
Gulf Refining Co.
Pure Oil Co.
Sinclair Refining Co.
Texas Company, The

Oil—Lubricating—
Barnsdall Refining Co.
Berry's, James B., Sons Co.
Crown Central Petroleum Corp.
Empire Refineries, Inc.
Gulf Refining Co.
Humble Oil & Refining Co.
Magnolia Petroleum Co.
Pennzoil Co.
Pure Oil Co.
Sinclair Refining Co.
Skelly Oil Co.
Texas Company, The

Oil—Tractor—
Barnsdall Refining Co.
Gulf Refining Co.
Pennzoil Co.
Pure Oil Co.
Skelly Oil Co.

Oiling Devices—
Lunkenheimer Co.

Oil Meters (See Meters)—

Oil Piping Equipment (See Fittings)—

Oil Reclaiming Process—
Barnickel, Wm. S., & Co.
Houston Pump & Supply Co.

Oil Refinery Equipment (See Refinery Equipment)—

Oil Securities (See Securities)—

Oil Suction and Discharge Hose—(See Hose)—

Oil Well Cementing—
Halliburton Oil Well Cementing Co.

Oil Well Screens (See Screens)—

Oil Well Tools—
D & B Pump & Supply Co.
Hinderliter Tool Co.
Reed Roller Bit Co.
Titusville Forge Co.
U. S. Tool Co.

Over Shots—
Reed Roller Bit Co.
Regan Forge & Engineering Co.

Oxygen—
Linde Air Products Co.

P

Packer Release—
Acme Fishing Tool Co.

Packers—
Goodyear Tire & Rubber Co.
Guiberson Corp.
Larkin & Co.
Layne & Bowler Co.
Meier, E. C., Lubricating Co.
Oil Well Supply Co.
Regan Forge & Engineering Co.
Spang & Co.
United States Rubber Co.

Packing—
Crane Packing Co.
Durabla Mfg. Co.
Garlock Packing Co.
Goodrich, B. F., Rubber Co.
Imperial Belting Co.
Johns-Manville, Inc.

Packing—Metallic—
Crane Packing Co.

Paint Guns—
Binks Spray Equipment Co.

Painting Equipment—Mechanical
Brown Instrument Co.
Matthews, W. N., Corp.

Paints—
Aluminum Co. of Ameica
American Asphalt Paint Co.
Arco Company, The
Cook Paint & Varnish Co.
Detroit Graphite Co.
Dixon, Joseph, Crucible Co.
Du Pont de Nemours, E. I. & Co., Inc.
Eagle-Picher Lead Co.
Eclipse Paint & Mfg. Co.
Hill, Hubbell & Co.
National Lead Co.
Sherwin-Williams Co.
St. Louis Surfacer & Paint Co.

Pipe—Cast Iron—
Greenspon's Jos., Sons Iron & Steel Co.
International Supply Co.
U. S. Cast Iron Pipe & Fdy. Co.

Pipe—Lead Chemical and Antimonial—
Eagle-Picher Lead Co.

Pipe—Steel—
Central Tube Co.
Continental Supply Co.
Greenspon's Jos., Sons Iron & Steel Co.
Jarecki Mfg. Co.
Kellogg, M. W., Co.
Murray Teol & Supply Co.
National Supply Co.
National Tube Co.
Republic Iron & Steel Co.
Ryerson, Jos. T., & Sons, Inc.
South Chester Tube Co.
Spang Chaifant & Co., Inc.
Superior Tube Co.
Wheeler Steel Corp.

Pipe—Wrought Iron—
Byers, A. M., Co.
Frick-Reid Supply Co.
Greenspon's, Jos., Sons Iron & Steel Co.
Oil Well Supply Co.
Reading Iron Co.
South Chester Tube Co.
Superior Tube Co.

Pipe and Nipple Threading Machines—
Bignall & Keeler Machine Works.
Cox & Sons Co., The
Landis Machine Co.
Ryerson, Jos. T., & Sons, Inc.

Pipe Clamps (See Clamps—Pipe)

Pipe Grips—
Larkin & Co.

Pipe Headers—
National Tube Co.
Newton Process Mfg. Co.

Pipe Line Coatings—
Hill, Hubbell & Co.

Pipe Line Construction Tools—
National Transit Pump & Machine Co.

Pipe Line Equipment—
Wheatley Bros. Machine Works
Gaso Pump & Burner Mfg. Co.

Pipe Screwing Machines—
Buckeye Traction Ditcher Co.

Pipe Straightening Machines—
W-K-M Co., Inc.

Pipe Suspension Device—
Stearns-Roger Mfg. Co.

Pipe Threaders—Power—
Williams Tool Corp.

Pipe Tools—
Armstrong Brothers Tool Co.
Nye Tool & Machine Works
Walworth Co.

Piping—Fabricated—
Midwest Piping & Supply Co.

Piping—Hard Rubber—
United States Rubber Co.

Piping—Steel & Iron—
Crane Co.
Greenspon's, Jos., Sons Iron & Steel Co.
Power Piping Co.

Pistons—
Guiberson Corp.
Heppenstall Forge & Knife Co.

Pistons—Expansion—
Wilson Oil Tools Corp.

Pistons—Slush Pump—
Guiberson Corp.

Plugs—Bottom Water—
Guiberson Corp.

Pre-Heaters—
National Gas Products Co.
Newton Process Mfg. Co.
Ross Heater & Mfg. Co., Inc.

Preservatives—Asphalt—
American Asphalt Paint Co.

Pulleys—Wood, Iron and Steel—
Continental Supply Co.
Dodge Mfg. Co.

Pulling Machines—
Iron King Mfg. Co.
National Supply Co.
Safety Pulling Machine Co.

Pumpers—Long Stroke—
Farley Machine Co.

Pumping and Pulling Motors—Electric—
Westinghouse Electric & Mfg. Co.

Pumping Equipment—
American Well Works.
Axelson Machine Co.
Bryson Jackson Pump Mfg. Co. Inc.
D & B Pump & Supply Co.
Farley Machine Co.
Goulds Pumps, Inc.
Jones, S. M., Co.
Myers, F. E., & Bros. Co.
Northrup Equipment Co.
Oil Well Supply Co.
Prescott Co.
Ratigan, J. P., Co.
Waukesha Motor Co.

Pumping Gear Units—
Nuttall, R. D., & Co.

Pumping Powers—
Bessemer Gas Engine Co.
Buda Co.
Frick-Reid Supply Co.
Jones, S. M., Co.
Kansas City Hay Press Co.
Marion Mch., Fdy. & Supply Co.
National Supply Co.
Oil Well Supply Co.
Pattin Bros. Co.
Reid, Joseph, Gas Engine Co.
Spence Machine Co.
Titusville Iron Works Co.

Pumps—Boiler Feed—
Ajax Iron Works.
Byron Jackson Pump Mfg. Co., Inc.
Fairbanks-Morse & Co.
Gardner Governor Co.
Goulds Pumps, Inc.
Oil Well Supply Co.

Pumps—Centrifugal—
American Well Works.
Byron Jackson Pump Mfg. Co., Inc.
Dean Hill Pump Co.
Fairbanks-Morse & Co.
Goulds Pumps, Inc.
Worthington Pump & Machinery Corp.

Pumps—Direct Driven—
Bessemer Gas Engine Co.

Pumps—Electric—
Prescott Co.

Pumps—Fuel Oil Service—
Blackmer Pump Co.
Goulds Pumps, Inc.
Northern Fire Apparatus Co.

Pumps—Fuel Oil Transfer—
Blackmer Pump Co.
Byron Jackson Pump Mfg. Co., Inc.

Pumps—Gasoline and Oil for Filling Stations—
Gilbert & Barker Mfg. Co.

Pumps—Gear Driver—
Gaso Pump & Burner Mfg. Co.
Lucey Mfg. Corp.
Prescott Co.

Pumps—Hot Oil—
Blackmer Pump Co.
Byron Jackson Pump Mfg. Co., Inc.
Goulds Pumps, Inc.

Pumps—Pipe Line—
Byron Jackson Pump Mfg. Co., Inc.
Frick-Reid Supply Co.
Gardner Governor Co.
Gaso Pump & Burner Mfg. Co.
Goulds Pumps, Inc.
National Transit Pump & Machine Co.
Prescott Cc.
Wheatley Bros. Machine Works
Worthington Pump & Machinery Corp.

Pumps—Portable—
Gaso Pump & Burner Mfg. Co.

Pumps—Power—
Dean Brothers Co.
Fairbanks-Morse & Co.
Gardner Governor Co.
Gaso Pump & Burner Mfg. Co.
Goulds Pumps, Inc.
Myers, F. E., Bro. & Co.
National Transit Pump & Machine Co.
Novo Engine Co.
Prescott Co.
Waukesha Motor Co.

Pumps—Refinery—
Blackmer Pump Co.
Byron Jackson Pump Mfg. Co., Inc.
Dean Hill Pump Co.
Gardner Governor Co.
Gaso Pump & Burner Mfg. Co.
Goulds Pumps, Inc.
National Transit Pump & Machine Co.
Northern Fire Apparatus Co.

Pumps—Rotary—
Blackmer Pump Co.
Goulds Pumps, Inc.
Northern Fire Apparatus Co.
Roots, P. H. & F. M., Co.

Pumps—Sand—
Bridgeport Machine Co.
Larkin & Co.

Pumps—Slush—
Gardner Governor Co.

Pumps—Steam—
Dean Brothers Co.
Fairbanks-Morse Co.
Frick-Reid Supply Co.
Gardner Governor Co.
Gaso Pump & Burner Mfg. Co.
Lucey Mfg. Corp.
National Transit Pump & Machine Co.
Oil Well Supply Co.
Prescott Co.

Pumps—Suction—
Gaso Pump & Burner Mfg. Co.

Pumps—Vacuum—
Bessemer Gas Engine Co.
Chicago Pneumatic Tool Co.
Clark Brothers Co.
Gaso Pump & Burner Mfg. Co.
Miller Improved Gas Engine Co.
Roots, P. H. & F. M., Co.
Ross Heater & Mfg. Co., Inc.
American Well Works.

Pumps—Water—
Byron Jackson Pump Mfg. Co., Inc.
Gaso Pump & Burner Mfg. Co.
Goulds Pumps, Inc.
Northern Fire Apparatus Co.
Prescott Co.

Punch—Rotary Belt—
Victor Balata & Textile Belting Co.

Purifiers—Oil Absorption—
Sharples Specialty Co.

Pyrometers—
Brown Instrument Co.
Republic Flow Meters Co.

R

Ratchet Pipe Cutters—
Toledo Pipe Threading Machine Co.

Ratchet Pipe Threaders—
Nye Tool & Machine Works
Toledo Pipe Threading Machine Co.

Receiving Boxes—
Reid, Joseph, Gas Engine Co.

Recorders—Differential Pressure—
Equitable Meter & Mfg. Co.
Metric Valve Works.

Refinery Equipment—
American Radiator Co.
Blaw-Knox Co.
Braun, C. F., & Co.
Carbondale Machine Co.
Chicago Bridge & Iron Works.
Cross Engineering Co.
Graver Corp.
Griscom-Russell Co.
Kellogg, M., W. Co.
McKee, Arthur G., & Co.
Newton Process Mfg. Co.
Petroleum Appliance Co.
Petroleum Iron Works Co.
Power Piping Co.
Power Specialty Co.
Reid, Joseph, Gas Engine Co.
Ross Heater & Mfg. Co., Inc.
Ross-Meehan Foundries.
Smith, A. O., Corp.
Smith Separator Co.
Southwestern Engineering Co., Inc.
Southwestern Engineering Corp.
United Iron Works, Inc.
Universal Oil Products Co.
Vogt, Henry, Machine Co.
Walsh & Weidner Boiler Co.
Westcott & Greis.
Widdell Engineering Co.

Refractories—Furnace, Stills and Baffles—
Botfield Refractories Co.
National Gas Products Co.

Refrigerating Machinery—
Carbondale Machine Co.
United Iron Works, Inc.
Vogt, Henry, Machine Co.

Regulators—
Fisher Governor Co.
Gilfillan Machine Works.
Smith Separator Co.

Regulators—Gas—
Chaplin-Fulton Mfg. Co.
Davis, G. M., Regulator Co.
Equitable Meter & Mfg. Co.
Fisher Governor Co.
Metric Metal Works.
National Gas Products Co.
Smith Separator Co.

Rental Service—
Bridgeport Machine Co.

Reversible Clutches—
Bessemer Gas Engine Co.

Rig Irons—
International Supply Co.
Lucey Mfg. Corp.
National Supply Co.
Oil Well Supply Co.
Parkersburg Rig & Reel Co.

Rigs—Drilling, All Steel—
International Derrick & Equipment Co.
Moore, Lee C., & Co., Inc.

Rigs—Portable Drilling—
National Supply Co.
National Turnbuckle Derrick Co.
Star Drilling Machine Co.

Rod Guides—
Meier, E. C., Lubricating Co.

Rods—Polish—
Jones, S. M., Co.

Rods—Pull—
Axelson Machine Co.
Columbus Sucker Rod Co.
Jones, S. M., Co.
Sheffield Steel Corp.

Rods—Sucker—
Axelson Machine Co.
Columbus Sucker Rod Co.
D & B Pump & Supply Co.
Frick-Reid Supply Co.
Jones, S. M., Co.
National Supply Co.
Oil Well Supply Co.
Republic Supply Co.
Sheffield Steel Corp.

Rods—Valve—
Jones, S. M., Co.

Roofing—Asbestos—
Johns-Manville, Inc.

Rope Socket Metal—
Eagle-Picher Lead Co.

Rope—Manila—
Ajax Rope Co., Inc.
Bovaird Supply Co.
Republic Supply Co.

Rope—Wire—
Ajax Rope Co., Inc.
American Cable Co.
Bovaird Supply Co.
Bridgeport Machine Co.
Broderick & Bascom Rope Co.
International Supply Co.
Jarecki Mfg. Co.
Wickwire-Spencer Steel Corp.
Leschen, A. & Sons, Rope Co.
Williamsport Wire Rope Co.

Rotary Bit Steel—
Andrews Steel Co.
Heppenstall Forge & Knife Co.

Rotary Drilling Equipment—
Emsco Derrick & Equipment Co.
Frick-Reid Supply Co.
International Derrick & Equipment Co.
Link-Belt Co.
Lucey Mfg. Co.
National Supply Co.
Oil Well Supply Co.
Republic Supply Co.
Titusville Iron Works Co.

Rotary Lines (See Rope—Wire)—

Rotary Post—
Reed Roller Bit Co.

Rotary Tool Joints—
Bartlesville Supply Co.
Hughes Tool Co.

Rust Preventatives—
Dearborn Chemical Co.
Eagle-Picher Lead Co.

S

Sand Lines—Manila—
Ajax Rope Co., Inc.
Plymouth Cordage Co.

Sand Lines—Wire—
Ajax Rope Co., Inc.
Broderick & Bascom Rope Co.
Hazard Mfg. Co.
Wickwire-Spencer Steel Corp.

Screens—Oil Well—
Layne & Bowler Co.

Screens—Water Well—
Layne & Bowler Co.

Screws Temper—
Burns Tool Co.

Separators—Centrifugal—
Miller, Max B., & Co.
Sharples Specialty Co.

Separators—Gas and Oil—
Smith Separator Co.

Separators—Steam—
Volz Engineering Equipment Co.

Sheet Lead—Chemical and Antimonial—
Eagle-Picher Lead Co.

Sheets—Corrugated, Black and Galvanized—
American Sheet & Tin Plate Co.
Ryerson, Jos. T., & Son, Inc.
United Alloy Steel Corp.

Sheets—Steel—
American Sheet & Tin Plate Co.
Republic Iron & Steel Co.
Sheffield Steel Corp.
United Alloy Steel Corp.

Shingles—Asbestos—
Johns-Manville, Inc.

Sleeves—
Dayton Pipe Coupling Co.
Dresser, S. R., Mfg. Co.

Sleeves—Split—
Dayton Pipe Coupling Co.
Dresser, S. R., Mfg. Co.

Slush Pump Pistons (See Pistons)—

Slush Pumps (See Pumps)—

Smoke Stacks—
Donovan Boiler Works.

Snuffers—Fire—
Simplex Equipment Co.

Sockets—
Acme Fishing Tool Co.
Bridgeport Machine Co.
Spang & Co.

Sockets—Sucker Rod—
Guiberson Corp.

Sockets—Swivel—
Arbon, Paul, & Co.

Sockets—Wire Rope—
Chicago Steel Foundry Co.

Soda Ash—
Mathieson Alkali Works, Inc.

Soda—Caustic—
Mathieson Alkali Works, Inc.

Solders—Bar and Wire—
Eagle-Picher Lead Co.
Hoyt Metal Co.

Spark Plugs—
Mosler Metal Products Corp.

Spears—
Acme Fishing Tool Co.
Brown Tool Co., Inc.

Sprockets—Power Transmission—
Ajax Iron Works
Chain Belt Co.

Stands—Vice—
Nye Tool & Machine Works

Steel—All Kinds—
Ryerson, Jos. T., & Son, Inc.

Steel—Alloy—
Central Steel Co.
Timken Roller Bearing Co.
United Alloy Steel Corp.

Steel—Bit—
Central Steel Co.
United Alloy Steel Corp.

Steel—Hot Rolled Strip—
Central Steel Co.

Steel—Special—
Andrews Steel Co.
Central Steel Co.
United Alloy Steel Corp.

Steel Fabricators—Structural—
Austin Co.
Braden Co.
Graver Corp.
International Derrick & Equipment Co.

Steel Pitmans—
International Derrick & Equipment Co.
Moore, Lee C., & Co., Inc.

Steel Plate Construction—
Chicago Bridge & Iron Works.
Graver Corp.
Kaw Steel Construction Co.
Petroleum Iron Works Co.
Vogt, Henry, Machine Co.

Steel Wheels and Tug Rims—
International Derrick & Equipment Co.

Stills—
Blaw-Knox Co.
Chicago Bridge & Iron Works
Graver Corp.
Kaw Steel Construction Co.
Kellogg, M. W., Co.
McKee, Arthur G., & Co.
Newton Process Mfg. Co.
Petroleum Iron Works Co.
Smith, A. O., Corp.
Vogt, Henry, Machine Co.
Widdell Engineering Co.

Stocks and Dies—
Borden Co.
Nye Tool & Machine Works.
Toledo Pipe Threading Machine Co.

Structural Steel Fabricators (See Steel Fabricators)—

Stuffing Boxes—
Axelson Machine Co.
Kansas City Hay Press Co.

Sucker Rods (See Rods—Sucker)

Suction Pumps (See Pumps)—

Sulphuric Acid—
Eagle-Picher Lead Co.

Superheaters—Steam—
Power Plant Equipment Co.

Swabs—
Arbon, Paul, & Co.
Burt Corporation.
Guiberson Corp.
Simplex Equipment Co.

Swedge Nipples—
Dresser, S. R., Mfg. Co.
Harrisburg Pipe & Pipe Bending Co.

Swing Line Equipment—
Brooks Engineering Corp.

Swivels—
Layne & Bowler Co.
Lucey Mfg. Corp.
Titusville Iron Works Co.

T

Tachometers—
Brown Instrument Co.

Tank Equipment—
Brooks Engineering Corp.
Oil Conservation Engineering Co.

Tanks—Bolted—
Butler Mfg. Co.
Columbian Steel Tank Co.
Maloney Tank Mfg. Co.
Parkersburg Rig & Reel Co.

Tanks—Bulk Station—
Butler Mfg. Co.
Graver Corp.

Tanks—Cylindrical—
Graver Corp.
Petroleum Iron Works Co.

Tanks—Elevated Steel—
Chicago Bridge & Iron Works
Graver Corp.

Tanks—Field Storage—
American Car & Foundry Co.
Donovan Boiler Works.
Graver Corp.
Kaw Steel Construction Co.
Kewanee Boiler Co.
Maloney Tank Mfg. Co.
Petroleum Iron Works Co.
Pittsburgh-Des Moines Steel Co.
Riter-Conley Co.
United Iron Works, Inc.

Tanks—Horizontal Storage—
Graver Corp.
Kaw Steel Construction Co.
Maloney Tank Mfg. Co.

Tanks—Run Down—
Donovan Boiler Works.
Graver Corp.
Kaw Steel Construction Co.
Newton Process Mfg. Co.

Tanks—Trucks—
Butler Mfg. Co.
Columbian Steel Tank Co.
White Co.

Tanks—Underground—
Butler Mfg. Co.
Gilbert & Barker Mfg Co.
Graver Corp.
Kewanee Boiler Co.
Pittsburgh-Des Moines Steel Co.

Tanks—welded—
Chicago Bridge & Iron Works.
Graver Corp.

Taper Taps—
Hughes Tool Co.

Tapes—Measuring for Oil Gauging—
Lufkin Rule Co.
States Engineering Co.

Thermometers—Indicating and Recording—
American Schaeffer & Budenberg Corp.
Bristol Co.
Brown Instrument Co.
Taylor Instrument Co.

Thermometers—Resistance—
Brown Instrument Co.

Threading Machines—
Bignall & Keeler Machine Wks.
Cox & Sons Co., The
Landis Machine Co.

Thread Protectors—
Spang & Co.

Tightener—Belt—
Victor Balata & Textile Belting Co.

Tires—Automobile—
Continental Supply Co.

Tires—Pneumatic & Solid—
Kelly-Springfield Tire Co.

Tires—Truck—
Kelly-Springfield Tire Co.

Tongs—
Bridgeport Machine Co.
Wilson Oil Tools Corp.

Tongs—Back Up—
Williams, J. H., & Co.

Tongs—Break Out—
Reed Roller Bit Co.
Williams, J. H., & Co.

Tongs—Casing —
Dunn Mfg. Co.
Guiberson Corp.

Tongs—Chain Pipe—
Armstrong Bros. Tool Co.
Williams, J. H., & Co.

Tongs—Pipe—
National Transit Pump & Machine Co.

Tongs—Rotary—
Dunn Mfg. Co.

Tongs—Tool Joint—
Guiberson Corp.
Hughes Tool Co.
Reed Roller Bit Co.

Tongs—Tubing—
Dunn Mfg. Co.

Tool Chests—Pipe—
Nye Tool & Machine Works.

Tool Joints—
Bridgeport Machine Co.
Federal Supply Co.
Hughes Tool Co.
Lucey Mfg. Corp.
Oil Well Supply Co.
Regan Forge & Engineering Co.

Torches—
Oxweld Acetylene Co.

Towers—
Graver Corp.

Tractors—
Cleveland Tractor Co.
International Harvester Co. of America.

Trailers—
Spencer Trailer Co.

Transmission Belt—Rubber—
Goodrich, B. F., Rubber Co.
United States Rubber Co.

Transmission Lining—
Stanley Belting Corp.

Traveling Blocks—
Lucey Mfg. Corp.
Regan Forge & Engineering Co.
Wright Mfg. Co.

Trenchers—Vertical Boom—
Barber-Greene Co.

Trucks—Motor—
Ford Motor Co.
General Motors Truck Co.
Graham Brothers.
International Harvester Co. of America.
White Co.

Tubes—Boiler, Charcoal Iron—
Byers, A. M., Co.
Reading Iron Co.

Tubes—Boiler Steel—
Continental Supply Co.
National Tube Co.
Ryerson, Jos. T., & Sons, Inc.

Tubing—
Babcock & Wilcox Tube Co.
Byers, A. M., Co.
Central Tube Co.
Continental Supply Co.
National Tube Co.
Reading Iron Co.
South Chester Tube Co.
Spang, Chalfant & Co., Inc.
Superior Tube Co.
Wheeling Steel Corp.

Tubing Catchers—
Continental Supply Co.
Dunn Mfg. Co.
Guiberson Corp.

Tubing Protectors (See Rod Guides)—

Tubular Goods—
Central Tube Co.
Continental Supply Co
Oil Well Supply Co
Republic Iron & Steel Co.
Spang, Chalfant & Co., Inc.
Wheeling Steel Corp.

Tubular Goods—Wrought Iron—
Byers, A. M., Co.
Reading Iron Co.

Turbines for Lighting Equipment
Lucey Mfg. Corp.
Westinghouse Electric & Mfg. Co.

U

Underreamer Body Steel—
Andrews Steel Co.
Heppenstall Forge & Knife Co.

Underreamers—
Bridgeport Machine Co.
Brown Tool Co., Inc.
Guiberson Corp.
Wilson Oil Tools Corp.

Unions—
Central Forging Co.
Jefferson Union Co.

V

Valuations—
American Appraisal Co.

Valves—Balata—
Victor Balata & Textile Belting Co.

Valves—Blow-Off—
Homestead Valve Mfg. Co.
Merco Nordstrom Valve Co.

Valves—Brass & Bronze—
Homestead Valve Mfg. Co.
Lunkenheimer Co.
Reading Steel Casting Co.
Walworth Co.

Valves—Cast Steel—
Chapman Valve Mfg. Co.
Homestead Valve Mfg. Co.
Walworth Co.

Valves—Check—
Gaso Pump & Burner Mfg. Co.
Lunkenheimer Co.
Walworth Co.

Valves—Drop Forged Steel—
Edwards Valve & Mfg. Co.
Vogt, Henry, Machine Co.

Valves—Gate—High and Low Pressure—
Chapman Valve Mfg. Co.
Crane Co.
Darling Valve & Mfg. Co.
Kennedy Valve Mfg. Co.
Kerotest Mfg. Co.
Ludlow Valve Mfg. Co.
Lunkenheimer Co.
Murray Tool & Supply Co
Powell, Wm., Co.
Walworth Co.

Valves—Iron—
Chapman Valve Mfg. Co.
Lunkenheimer Co.
Merco Nordstrom Valve Co.
Reading Steel Casting Co.
Walworth Co.

Valves—Metal Pump—
Durabla Mfg. Co.

Valves—Pump—
United States Rubber Co.

Valves—Relief—Supersensitive—
Davis, G. M., Regulator Co.

Valves—Steel—
Chapman Valve Mfg. Co.
Edward Valve Mfg. Co.
Kerotest Mfg. Co.
Lunkenheimer Co.
Metric Metal Works.
Powell, Wm., Co.
Reading Steel Casting Co.
Walworth Co.

Valves—Tank Vent—
Brooks Engineering Corp.
Oil Conservation Engineering Co.

Valves—Working Barrel—
Atlas Ball Co.
Axelson Machine Co.
D & B Pump & Supply Co.
Hough, Charles N., Mfg. Co
Northrup Equipment Co.
Oil Well Supply Co.

Varnishes—
Arco Company, The
Detroit Graphite Co.
Sherwin-Williams Co.

Vises—Bench—
Nye Tool & Machine Works.

Vises—Pipe—
Nye Tool & Machine Works.

Vises—Post—
Nye Tool & Machine Works.

W

Wagons—Truss Wheel—
Athey Truss Wheel Co.

Walking Beams—Steel—
Emsco Derrick & Equipment Co.
Moore, Lee C., & Co., Inc.

Water Cooling Systems —
Power Plant Equipment Co.

Water Softeners and Filters—
Butler Mfg. Co.
Graver Corp.

Wax—
Barnsdall Refining Co.
Gulf Refining Co.
Pure Oil Co.

Weight Indicators—
Hughes Tool Co.

Welding Accessories—Electric—
Wilson Welder & Metals Co.

Welding and Cutting Apparatus—
Oxweld Acetylene Co.

Welding Machines—Electric—
Wilson Welder & Metals Co.

Welding Supplies—
Oxweld Acetylene Co.

Welding Wire—
Frick-Reid Supply Co.
Oxweld Acetylene Co.
Wilson Welder & Metals Co.

Well Shooting—
Eastern Torpedo Co.
Zero Hour Torpedo Co.

Wheels—Pipe Cutter—
Nye Tool & Machine Works.

Wheels—Steel Automotive—
Budd Wheel Co.

Winches—
Braden Co.
Brooks Engineering Co.
Oil Conservation Engineering Co.

Wire Lines (See Cables—Steel)—

Wood Patterns and Models—
Gaso Pump & Burner Mfg. Co.

Working Barrels—
Axelson Machine Co.
D & B Pump & Supply Co.
Franklin Valveless Engine Co.
Frick-Reid Supply Co.
Hough, Charles N., Mfg. Co.
McGregor Working Barrel Co.
Norris, W. C.
Northrup Equipment Co.
Oil Well Supply Co.

Wrenches—Closet Spuds—
Nye Tool & Machine Works.

Wrenches—Drop Forged—
Williams, J. H., & Co.

Wrenches—Pipe—
Trimont Mfg. Co.
Walworth Co.

Wrenches—Ratchet—
Dresser, S. R., Mfg. Co.
Nye Tool & Machine Works.

Z

Zinc Oxide—
Eagle-Picher Lead Co.

Oklahoma-Kansas and Eastern Pipe Line Report

OKLAHOMA-KANSAS

Pipe Line Statement for April

Runs

	Month	Daily Av.
*Prairie Pipe Line Co.	3,840,000	128,000
Gulf Pipe Line Co.	1,041,263	34,709
Texas Pipe Line Co.	457,001	15,233
Magnolia Petroleum Co.	1,285,967	42,866
Empire Pipe Line Co.	723,420	24,114
Cosden Pipe Line Co.	874,805	29,160
Sinclair Pipe Line Co.	1,653,840	55,128
*Other lines	7,920,000	264,000
Total April	17,796,296	593,210
Total March	17,668,564	569,953
Difference	127,732	23,257

Shipments

†Prairie Pipe Line Co.	4,332,972	144,432
Gulf Pipe Line Co.	1,086,188	36,206
Texas Pipe Line Co.	787,526	26,251
Magnolia Petroleum Co.	1,504,766	50,159
Empire Pipe Line Co.	736,064	24,535
Cosden Pipe Line Co.	881,084	29,369
†Sinclair Pipe Line Co.	2,569,697	85,656
*Other lines	8,820,000	294,000
Total April	20,718,297	690,608
Total March	20,540,959	662,617
Difference	177,338	27,991

Stocks

*Prairie Oil & Gas Co.	27,311,000
*Prairie Pipe Line Co.	2,000,000
Gulf Pipe Line and Gypsy Oil	6,341,159
The Texas Company	3,608,827
Magnolia Petroleum Co.	4,939,729
Empire Pipe Line Co.	2,802,158
Cosden Pipe Line Co.	1,941,248
*Sinclair Crude Oil Purchasing Co.	20,200,000
Carter Oil Co.	13,672,648
*Other lines	9,800,000
Total April	92,616,769
Total March	94,761,334
Difference	2,144,565

*Estimated. †Prairie shipments include Texas crude oil. Sinclair shipments include Texas and Wyoming crude oil.

Note: Stocks do not include 5,900,000 bbls. of crude oil held in storage on private tank farms and leases.

EASTERN PIPE LINES

Runs From Wells

In the following table will be found the regular receipts from wells by various pipe lines in New York, Pennsylvania, West Virginia, Ohio, Kentucky and Indiana for April and May:

	April, 1926	May, 1926
Nat. Transit	175,931.37	174,995.11
S. W. Pa. Pipe	89,773.16	91,188.06
Eureka P. L.	372,871.02	370,755.39
Buckeye P. L. (Macksburg)	304,514.55	294,855.09
Buckeye P. L. (Cleveland)	12,060.87	11,845.40
Buckeye P. L. (Lima, etc.)	127,204.85	133,401.39
Indiana P. L.	9,095.76	10,520.15
Cumberland P. L.	273,842.36	268,123.06
N. Y. Transit	20,181.07	19,552.93
Tidewater P. L.	160,027.79	159,613.39
Pure Oil	171,766.80	172,006.54
Emery P. L.	48,703.74	49,842.97
Indian Ref.	93,143.14	97,979.63
Paragon Dev.	24,723.50	23,308.37
Pittsburgh P. L.	6,733.43	
Total	1,890,573.41	1,877,987.48
Daily average	63,019.11	60,580.24

Note: Indian Refining Co. also reported other receipts of 283,329.87 bbls. Paragon Refining Co. had other receipts of 140,751.80 bbls. Paragon Development had other receipts of 2,113.44 bbls. Pure Oil had other receipts of 59,553.74 bbls.

Petroleum Deliveries

The following tables exhibit the shipments or regular deliveries of various pipe lines in New York, Pennsylvania, West Virginia, Ohio, Kentucky and Indiana for April and May:

	April, 1926	May, 1926
Nat. Transit	314,763.21	345,085.14
S. W. Pa. P. L.	409,564.75	393,148.52
Eureka P. L.	163,392.74	192,968.03
Buckeye P. L. (Macksburg)	94,254.91	114,603.45
Buckeye P. L. (Cleveland)	1,162.42	969.91
Buckeye P. L. (Lima, etc.)	823,641.06	910,244.94
Indiana P. L.	963,616.70	996,006.17
Cumberland P. L.	162,112.44	144,932.35
N. Y. Transit	668,407.25	690,213.42
Northern Pipe	133,960.98	161,237.60
Tidewater P. L.	93,030.34	159,830.90
Pure Oil	205,777.75	244,274.44
Emery P. L.	45,829.05	49,935.36
Paragon Ref.	170,282.16	140,751.80
Indian Ref.	288,296.97	419,340.15
Paragon Dev.	26,494.22	27,092.55
Pittsburgh P. L.	6,539.32	
Total	4,571,126.27	4,990,634.73
Daily average	152,370.87	154,536.60

Gross Stocks

The gross stocks held by various pipe lines in the oil producing sections of New York, Pennsylvania, West Virginia, Ohio, Indiana and Kentucky, at the close of April and May, were as follows:

	April, 1926	May, 1926
Nat. Transit	1,069,233.29	1,062,711.06
S. W. Pa. P. L.	688,704.11	592,119.25
Eureka P. L.	1,621,601.25	1,489,308.65
Buckeye P. L. (Macksburg)	417,370.13	454,767.17
Buckeye P. L. (Cleveland)	73,536.91	80,869.73
Buckeye P. L. (Lima, etc.)	2,369,543.33	2,331,309.46
Indiana P. L.	544,568.51	566,868.09
Cumberland P. L.	599,474.86	598,818.89
Southern P. L.	481,210.52	447,896.85
N. Y. Transit	695,608.61	735,622.34
Northern P. L.	436,138.52	442,189.21
Pure Oil	460,634.48	450,527.08
Emery P. L.	34,514.24	35,299.99
Paragon Ref.	72,985.28	45,985.57
Indian Ref.	231,194.41	193,356.41
Paragon Dev.	4,918.23	4,107.65
Pittsburgh P. L.	4,614.59	
Total	9,805,851.27	9,531,757.40
Decrease	*367,558.84	274,093.87

*Increase.

Grades of Oil

The following table shows the amount of the different grades of oil held by the eastern pipe lines at the close of April and May showing the gross stocks of the above fields:

	April, 1926	May, 1926
Pennsylvania	4,076,568.47	3,824,110.70
Lima	947,707.33	953,292.28
Kentucky	1,163,245.60	1,167,315.61
Mid-Continent	3,459,618.16	3,479,821.87
Illinois	158,711.71	107,216.94
Total	9,805,851.27	9,531,757.40

Daily Average Runs

The following table shows the daily average runs of the Pennsylvania, Lima and Kentucky oil fields for the past four years:

	1923	1924	1925	1926
January	75,790	62,638	56,831	55,630
February	71,092	62,023	60,606	60,394
March	76,592	68,721	60,575	61,644
April	75,614	71,058	63,062	63,019
May	77,365	63,942	59,217	60,580
June	77,593	63,230	61,270	.....
July	71,879	64,208	62,639	.....
August	76,910	59,942	59,686	.....
September	72,358	62,930	62,510	.....
October	76,256	64,976	60,995	.....
November	70,762	56,282	59,350	.....
December	69,271	55,814	57,974	.....

Daily Average Shipments

The following table gives daily average shipments from the Pennsylvania, Lima and other fields for the past four years:

	1923	1924	1925	1926
January	171,067	145,518	157,889	156,056
February	164,219	148,732	160,863	159,488
March	185,487	147,098	154,591	150,239
April	170,751	147,611	151,429	152,371
May	177,102	134,997	146,995	154,537
June	173,598	143,010	149,467	.....
July	168,330	124,187	161,338	.....
August	142,776	123,120	161,730	.....
September	137,266	127,325	156,719	.....
October	134,597	123,170	145,388	.....
November	131,426	124,400	143,582	.....
December	139,909	151,392	150,162	.....

Gross Stocks

In the following table will be found the gross stocks of the various lines of the Pennsylvania, Lima and Kentucky oil fields, including oil received from other lines, at the close of each month for the past three years:

	1924	1925	1926
January	12,907,202	11,353,276	9,859,170
February	11,844,068	11,152,924	9,579,354
March	10,906,752	11,158,297	9,438,292
April	10,922,742	11,062,082	9,805,851
May	11,335,309	11,207,562	9,531,757
June	11,544,204	11,093,796	.....
July	12,062,361	11,067,453	.....
August	12,221,676	10,974,481	.....
September	12,206,836	10,781,753	.....
October	12,664,061	11,086,850	.....
November	12,268,530	11,068,158	.....
December	11,583,680	10,458,445	.....

Franklin Pipe Line Co.

The following table exhibits the condition of the Franklin Pipe Line at the close of business for the months named and not counted in the stocks and averages reported above:

	Receipts	Shipmts.	Stocks
1925—			
May	2,814.99	5,719.90	10,254.13
June	3,052.75	1,221.83	12,085.05
July	2,639.34	3,174.10	11,550.29
August	3,216.97	1,577.99	13,189.27
September	2,929.99	5,352.05	10,767.21
October	2,869.75	1,499.34	12,137.62
November	2,759.66	2,571.32	12,283.40
December	2,661.87	3,441.67	11,503.60
1926—			
January	2,990.16	1,478.35	13,015.41
February	2,580.23	2,776.19	12,819.45
March	2,754.62	1,732.77	13,841.30
April	3,137.40	4,519.68	12,459.02
May	2,933.29	2,096.35	13,295.96

The Illinois Field

The following table gives the report of the Illinois Pipe Line Co. in Illinois:

Gross stocks June 1	2,539,930.90
Runs from wells	554,235.77
Other receipts	344,229.50
Regular deliveries	455,231.12
Other deliveries	418,247.09

The amount of Ilinois oil run by the Tidewater Pipe Co. in May was 28,180.90 bbls. and deliveries were 43,225.78 bbls. Adding these figures to those of the Illinois Pipe Line Co. makes the runs and deliveries as follows:

1925—		
May	692,671.94	568,573.62
June	700,090.46	589,535.24
July	724,481.26	564,713.19
August	673,652.38	650,649.97
September	706,434.87	510,697.61
October	706,532.00	633,682.32
November	664,556.30	488,449.19
December	665,086.99	578,938.47
1926—		
January	665,243.62	516,083.76
February	632,611.99	506,310.51
March	753,300.74	524,625.95
April	610,957.04	487,604.00
May	682,416.67	498,456.90

The Tidewater Pipe Co., Ltd., also delivered in May 314,131.72 bbls. of Oklahoma oil.

AVERAGE DAILY RECEIPTS OF CALIFORNIA OIL AT ATLANTIC AND GULF PORTS

Average bbls. per day—	ATLANTIC PORTS: Baltimore	Boston	New York	Philadelphia	Others	Total	GULF COAST PORTS: Galveston	New Orleans Baton Rouge	Port Arthur Sabine Pass	Tampa	Total	Total All Ports
January	9,355	13,484	32,581	19,387	5,097	79,804	.....	.....	.....	65	65	79,869
February	13,111	9,464	28,214	24,393	20,107	95,289	.....	.....	.....	.....	.....	95,289
March	7,000	2,516	43,829	16,612	16,903	91,870	.....	.....	.....	.....	.....	91,870
April	19,033	5,133	28,333	13,400	22,867	88,767	.....	.....	4,700	.....	.....	93,467

AVERAGE DAILY IMPORTS OF PETROLEUM AT PRINCIPAL UNITED STATES PORTS

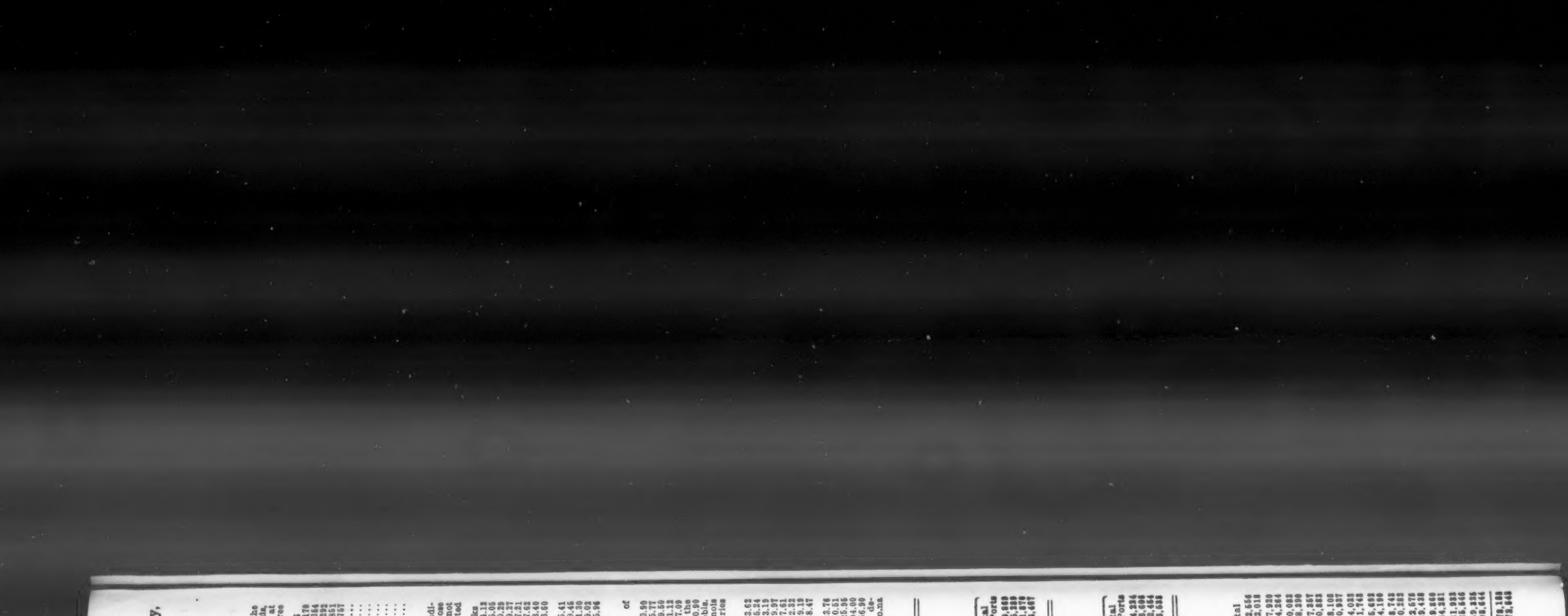
Average bbls. per day—	ATLANTIC PORTS: Baltimore	Boston	New York	Philadelphia	Others	Total	GULF COAST PORTS: Galveston	New Orleans Baton Rouge	Port Arthur Sabine Pass	Tampa	Total	Total All Ports
January	12,451	19,484	49,451	12,645	21,903	115,934	21,903	25,871	5,645	4,871	58,290	174,224
February	14,648	16,071	60,107	9,464	20,750	121,035	22,321	50,250	6,286	6,714	85,571	206,606
March	28,387	15,935	81,742	16,290	34,258	176,612	19,355	44,097	7,096	5,294	75,842	252,454
April	15,200	14,000	76,833	10,633	29,333	156,000	19,200	24,900	2,000	4,433	50,533	206,533

GROSS PRODUCTION OF THE UNITED STATES FOR 12 MONTHS

(IN BARRELS)

		California	Oklahoma	Texas	Kansas	Arkansas	Louisiana	Rocky Mountains	Eastern Fields	Total
May:	Month	18,820,328	14,443,675	13,077,697	3,493,266	11,813,996	1,886,752	2,799,542	3,167,300	69,502,556
	Daily average	607,107	465,925	421,861	112,686	381,097	60,863	90,308	102,171	2,243,018
June:	Month	19,288,135	13,832,970	12,602,540	3,229,440	9,200,372	1,830,965	2,754,498	3,389,000	66,127,920
	Daily average	642,938	461,099	420,085	107,648	306,672	61,032	91,816	109,000	2,204,264
July:	Month	20,411,049	14,263,565	12,337,598	3,686,675	7,835,819	1,898,178	3,129,199	3,348,000	66,910,083
	Daily average	658,421	460,115	397,984	118,925	252,768	61,231	100,942	108,000	2,158,390
August:	Month	21,005,580	14,441,040	11,936,079	3,558,087	7,450,580	1,858,543	3,250,448	3,177,000	66,677,357
	Daily average	677,599	465,480	385,032	114,777	240,341	56,727	104,853	102,484	2,150,883
September:	Month	20,062,763	14,825,040	11,264,890	3,393,270	6,457,950	1,776,570	3,235,625	3,212,000	64,228,108
	Daily average	668,759	494,168	375,496	113,109	215,265	56,219	107,854	107,067	2,140,937
October:	Month	20,015,076	14,921,199	11,196,511	3,477,146	6,409,281	1,871,830	3,394,990	3,248,000	64,534,033
	Daily average	645,648	481,329	361,178	112,166	206,751	60,382	109,500	104,774	2,081,743
November:	Month	19,095,907	14,590,980	10,650,087	3,221,760	5,927,955	1,758,882	3,088,121	2,992,000	61,325,693
	Daily average	636,530	486,366	355,003	107,397	197,599	58,629	102,937	99,753	2,044,190
December:	Month	19,249,711	14,123,848	10,930,456	3,308,816	6,047,883	1,763,966	3,187,164	3,086,900	61,698,743
	Daily average	620,959	455,608	352,595	106,736	195,093	56,902	102,812	99,552	1,990,283
January:	Month	19,069,563	13,674,813	10,880,814	3,250,536	5,489,620	1,606,952	3,136,280	3,014,000	60,122,578
	Daily average	615,147	441,123	350,994	104,856	177,084	51,835	104,396	97,226	1,939,438
February:	Month	17,163,963	12,387,620	9,689,120	2,877,812	4,766,836	1,583,904	2,769,605	2,931,000	54,169,860
	Daily average	612,999	442,415	346,040	102,779	169,887	56,568	98,914	104,678	1,934,281
March:	Month	18,825,786	14,312,886	10,974,341	3,334,887	5,115,837	1,889,946	3,151,250	3,327,000	60,931,933
	Daily average	607,283	461,706	354,011	107,577	165,027	60,966	101,653	107,323	1,965,546
April:	Month	18,091,771	14,468,190	10,778,760	3,330,130	5,127,510	1,959,570	3,231,494	3,272,000	60,259,325
	Daily average	603,059	482,272	359,292	111,004	170,917	65,319	104,339	109,066	2,008,644
	Total 12 months	231,100,332	170,295,816	136,318,892	40,161,815	81,633,639	21,686,854	37,123,136	38,164,200	756,478,186
	Daily average	633,151	466,586	373,476	110,083	223,654	59,414	101,721	104,569	2,072,643

XUM



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CONFIDENCE

When a graceful young lady, with much to live for, leaves the safety of her trapeze to hurl herself through space to the hands of a waiting partner, it may look like sheer recklessness. In reality, it is common-sense confidence—based on performance.

Performance is likewise the basis of the confidence GASO Pumps enjoy—performance exemplified by the manner in which GASOS operate year after year for many of the biggest companies in the industry: Prairie, Sinclair, Texas, Standard and Midwest, to cite just a few.

SMALL PUMPS *with* BIG IDEAS *of* DURABILITY *and* EFFICIENCY

Gaso Walking Beam Pump for Gas or Vacuum. Designed to stand world of abuse.

Gaso Walking Beam Pump for Oil or Water; especially adapted for use where no pumping power is available.

Gaso Rodline Pump for general service; used in connection with rod or shackle line between power and well.

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GASO PUMPS
for every oil industry need

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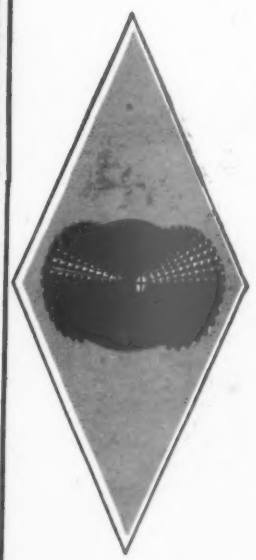
Two money savers

The Rotary

THE HUGHES ROCK BIT



HUGHES TOOL COMPANY

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OKLAHOMA CITY, OKLA.

MAIN OFFICE AND PLANT
HOUSTON, TEXAS

Export Office
NEW YORK CITY, N.Y.